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Falkirk Forestry and Woodland Strategy

Committee Draft

Technical Report
Prepared by LUC
March 2015

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List of abbreviations

AQMA	Air Quality Management Area
CCF	Continuous Cover Forestry
CSFT	Central Scotland Forest Trust
CSGN	Central Scotland Green Network
CSGNT	Central Scotland Green Network Trust
EIA	Environmental Impact Assessment
FC	Forestry Commission
FCS	Forestry Commission Scotland
FEI	Forest Education Initiative
FFWS	Falkirk Forestry and Woodland Strategy
FINNS	Forth Invasive Non-Native Species Programme
HRA	Habitats Regulation Appraisal
HS	Historic Scotland
INNS	Invasive Non-Native Species
LCA	Landscape Character Assessment
LDP	Local Development Plan
LISS	Low Impact Silvicultural Systems
LNR	Local Nature Reserve
NFLS	National Forest Land Scheme
NNR	National Nature Reserve
NPF3	National Planning Framework 3
PAWS	Plantations on Ancient Woodland Sites
RAFTS	Rivers and Fisheries Trusts of Scotland
SAC	Special Area of Conservation
SFS	Scottish Forestry Strategy
SG	Scottish Government
SHEP	Scottish Historic Environment Policy
SIMD	Scottish Index of Multiple Deprivation
SINC	Site of Importance for Nature Conservation
SIRR	Special Initiative for Residential-led Regeneration
SLA	Special Landscape Area
SM	Scheduled Monuments
SNH	Scottish Natural Heritage
SPA	Special Protection Area
SPP	Scottish Planning Policy
SRDP	Scotland Rural Development Programme
SSSI	Site of Special Scientific Interest
SMF	Sustainable Management of Forests
SuDS	Sustainable Drainage Systems
SVDLS	Scottish Vacant and Derelict Land Survey
SWT	Scottish Wildlife Trust
TCV	The Conservation Volunteers
UKFS	UK Forestry Standard
UKWAS	UK Woodland Assurance Standard
VDL	Vacant and Derelict Land
WHS	World Heritage Site
WIAT	Woods In and Around Towns
WIG	Woodland Improvement Grant

1 Introduction

1.1 Trees and woodland are an important component of Falkirk's urban and rural landscapes, and make a key contribution to environmental quality, the health and well-being of its communities and the attractiveness of the area as a place to live, work and invest.

What is the Strategy for?

1.2 The Falkirk Forestry and Woodland Strategy (hereafter referred to as The Strategy is intended to guide woodland management and expansion in Falkirk, providing a strategic and spatial framework to optimise the contribution of woodland and forestry to the people, environment and economy of the region.

1.3 Specifically, it will:

- promote the creation of high quality, multi-objective woodland;
- inform the design and management of woodland in the Falkirk area;
- assist in protecting and enhancing valuable woodland;
- support the Falkirk Local Development Plan and form part of the evidence base for the next Local Development Plan;
- inform local authority development management, investment and asset management decisions on proposals that include woodland removal or creation;
- guide local authority responses to consultation on planting proposals and applications for grant support for woodland creation and management;
- guide development and delivery of grant support for forestry through the Scotland Rural Development Programme (SRDP); and,
- assist with the development and approval of Forest District Strategic Plans and long-term Forest Plans and Land Management Plans.

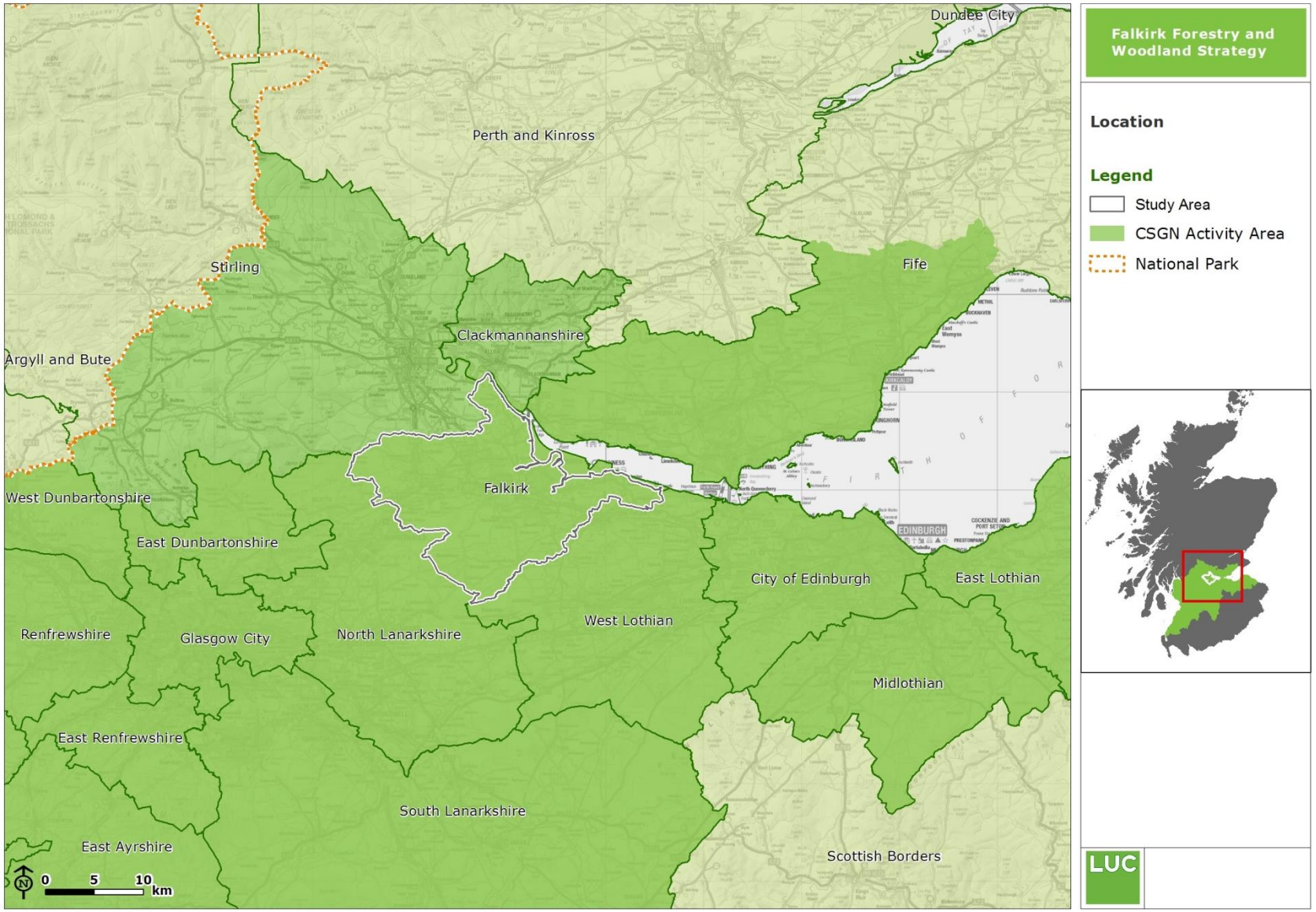
1.4 Once adopted, the Strategy will replace the Indicative Forestry Strategy in the Falkirk Council Structure Plan 2007[1] and the Falkirk Urban Woodland Strategy[2]. The Strategy has been developed in partnership with Forestry Commission Scotland, Falkirk Council, Central Scotland Green Network Trust (CSGNT), and Scottish Natural Heritage.

Why is it being developed?

1.5 In the past two decades, Falkirk has led the way in demonstrating the value of high quality woodland and green space as a means of delivering major environmental enhancement and meaningful social and economic benefits for local people. Necessarily, much of this activity has focussed on the urban area and the legacy of post-industrial dereliction – in other words, where action has been needed most. This Strategy aims to cover the whole authority area, dealing with opportunities and challenges in the rural area, as well as providing links to ongoing urban and community-focussed initiatives.

[1] Falkirk Council, 2007. *Falkirk Council Structure Plan 2007.* Falkirk: Falkirk Council.
[2] Falkirk Council, 2005. *Falkirk Urban Woodland Strategy.* Falkirk: Falkirk Council.

Figure 1.1 Location



Terminology

The emphasis of current Scottish Government policy makes the delivery of multiple benefits by woodland – regardless of origin – a necessity. In line with this policy, this Strategy uses the term '**woodland**' throughout to refer to all areas of land, over 0.25 hectares in area, where trees are growing. '**Forest**' is used only in relation large-scale planted woodlands managed for timber production.

The term '**forestry**' is used to refer to the science, art and practice of managing woodlands on a professional and sustainable basis to ensure that their economic, social and environmental benefits to society are optimised.

'**Conifer**' is used as a general descriptor for all coniferous woodland; '**softwood**' is used where trees are planted principally for timber production. In Falkirk these are often non-native species.

Context of the Strategy

Introduction

1.6 The management, use and expansion of woodlands sit at the interface of planning, environmental and forestry policy. While this means that trees and woodland can help to achieve a wide range of objectives, it also means that the regulatory situation is sometimes complicated. This does, however, help to ensure that adverse social and environmental effects can be identified and successfully avoided or mitigated.

Forestry

The Scottish Forestry Strategy

1.7 The national policy context for the Falkirk Forestry and Woodland Strategy is set by The Scottish Forestry Strategy (SFS)[3] (2006) which outlines Scottish Ministers' aspirations for Scotland's woodland resource, highlighting key themes, issues and policies for expansion and management. The SFS has set a target of increasing Scotland's woodland cover from 17% to 25% by the second half of the century.

1.8 It sets out a vision which looks ahead to the second half of this century, but focuses on the delivery of key priorities until 2016. Its vision is that:

"By the second half of this century, people are benefiting widely from Scotland's trees, woodlands and forests, actively engaging with and looking after them for the use and enjoyment of generations to come. The forestry resource has become a central part of our culture, economy and environment".

1.9 The SFS has seven key themes which will help to achieve its vision for Scotland's woodlands:

- **Climate Change** - Helping Scotland mitigate and adapt to climate change;
- **Timber** - Getting the most from Scotland's timber resource;
- **Business Development** - Supporting sustainable economic growth through business development of the Scottish woodland sector;
- **Community Development** - Supporting community development to improve quality of life and well-being;
- **Access and Health** - Improving access to woodlands, to help improve the health of Scotland;
- **Environmental Quality** - Protecting the environmental quality of our natural resources; and,
- **Biodiversity** - Helping to conserve and enhance Scotland's biodiversity.

[3] Scottish Executive, 2006. *The Scottish Forestry Strategy.* Edinburgh: Scottish Executive.

1.10 The policies of the SFS are supported by the current suite of Forestry Commission guidance in particular the mandatory **UK Forestry Standard** (UKFS), supported by the voluntary **UK Woodland Assurance Standard** (UKWAS). These policies should ensure best practice in woodland design and management.

1.11 The Scottish Forestry Strategy set the context for a number of policy documents and initiatives which expand upon the role of woodland and forestry in meeting a broad range of objectives. **The Woods In and Around Towns** (WIAT) initiative, delivered through the Woodland Improvement Grant (WIG) and the Sustainable Management of Forests (SMF) funds in the Scottish Rural Development Programme (SRDP) 2014-2020, aims to improve and regenerate urban woodlands close to where people live and work (within 1km of settlements with a population of over 2000 people). **The Role of Scotland's National Forest Estate and Strategic Directions 2013-2016** is a strategic plan which defines how Forestry Commission Scotland, through its operating arm, Forest Enterprise Scotland, will implement the Scottish Forestry Strategy in the National Forest Estates. The strategy is complemented by a set of strategic plans – one for each of the ten forest districts. **The Scottish Lowlands Forest District Strategic Plan** covers the Falkirk Council area.

Rationale for Woodland Expansion

1.12 The Scottish Government's Rationale for Woodland Expansion[4] sets out the Scottish Government's views on how woodland expansion can best increase the delivery of public benefits from Scotland's land in line with the contents of the Scottish Forestry Strategy. It notes the role of woodland expansion and management in:

- Helping to tackle greenhouse gas emissions;
- Restoring lost habitats and adapting to climate change;
- Delivering ecosystem services;
- Underpinning a sustainable forest products industry;
- Supporting rural development;
- Providing community benefits; and,
- Enhancing urban areas and improving landscapes.

1.13 It sets a target of planting a further 650,000ha of woodland, necessitating a planting rate averaging **10,000ha per year**. This has been adopted as the national target, and is a critical means of achieving Scotland's emission reduction commitments[5].

Policy on Control of Woodland Removal

1.14 The Scottish Government's Policy on the Control of Woodland Removal[6] seeks to facilitate the desired increase in woodland area by preventing avoidable woodland loss. It establishes the need for compensatory planting where development proposals or forestry work necessitates the loss of woodland.

Scotland Rural Development Programme

1.15 The Scotland Rural Development Programme (SRDP) includes a range of options to fund many types of woodland creation and management that can be utilised to meet the specific characteristics of the region.

1.16 The Forestry Grant Scheme 2014 - 2020 encourages an increase in the sustainable management of existing woodlands and the creation of well-designed woodlands and forests[7] in areas identified as being 'preferred' or 'potential' in forestry and woodland strategies, priority areas in the Forestry Commission Scotland-SEPA opportunity map for riparian woodland, priority areas for woodland expansion in the Cairngorms National Park, and in the Central Scotland Green Network.

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[4] Scottish Government, 2009. *The Scottish Government's Rationale for Woodland Expansion.* [pdf]. Available at: http://scotland.forestry.gov.uk/images/corporate/pdf/ForestExpansion.pdf [Accessed 01 September 2014]

[5] See Low Carbon Scotland: Meeting the Emissions Reduction Targets 2010-2022

[6] Scottish Government, 2009. *The Scottish Government's Policy on Control of Woodland Removal.* [pdf]. Available at: http://scotland.forestry.gov.uk/images/corporate/pdf/fcfc125.pdf [Accessed 01 September 2014]

[7] In particular conifer, diverse conifer and broadleaved woodlands and forests.

1.17 The Woodland Improvement Grant (WIG) of the Forestry Grant Scheme prioritises the improvement of existing woodlands by providing grants to:

- encourage natural regeneration which will benefit priority habitats and species (through the Habitats and Species grant);
- increase species and structural diversity through the use of Low Impact Silvicultural Systems (LISS) (through the LISS grant);
- contribute to the sustainable management of urban woodlands and improve public access (through the Woods In and Around Towns [WIAT] grant);
- support the preparation of forest and/or management plans that set out management objectives for woodlands (through grant support for Long-term Forest Plans; Forest Plan Renewals; Woodland Grazing Management Plans; WIAT Urban Woodland Management Plans; and, Deer Management Plans); and,
- improve the biodiversity, resilience, and structural diversity of even aged woodlands (through the Restructuring Regeneration grant).

1.18 The Sustainable Management of Forests (SMF) of the Forestry Grant Scheme supports a range of activities in existing woodlands that will:

- increase species and structural diversity through LISS management (through the LISS grant);
- encourage natural regeneration to expand native woodlands (through the Native Woodlands grant);
- bring native woodland and designated woodland features into active management and good ecological condition (through the Livestock Exclusion, and Woodland Grazing grants);
- support the management of rural and urban woodlands for public access (through the Public Access - Rural Woods, and Public Access – WIAT grants); and,
- control the spread of non-native invasive species (through the Grey Squirrel Control; Predator Control for Capercaillie and Black Grouse, and Reducing Deer Impact grants).

1.19 Other support measures identified in the Forestry Grant Scheme include the:

- Agroforestry grant which provides support to create small scale woodland within sheep grazing pastures;
- Tree Health grant which provides support for the restoration of forests affected by tree diseases by removing infected trees and carrying out subsequent replanting;
- Harvesting and Processing grant which supports investments in new specialised equipment to increase the local small-scale harvesting and processing capacity with the aim of bringing woodlands into positive management; promoting the economic and sustainable production of timber and timber products through processing; adding value to local economies on a non-industrial scale; providing support to facilitate and support diversification and to assist with the creation of new small enterprises and related employment;
- Forest Infrastructure grant which provides support for new access infrastructure to bring small scale, undermanaged woodlands or inaccessible woodlands back into active management to improve the economic value of forest and woodland through timber production; increase the area of woodland that is in sustainable management; and improve the environmental and social benefit of woodland.

Central Scotland Green Network

1.20 Within the pan-regional policy context, the Central Scotland Green Network (CSGN) is defined as a 'national development' within the National Planning Framework 3[8], encompassing 19 local authorities across Central Scotland, which aims to change the face of Central Scotland by restoring and improving the rural and urban landscape of the area. The CSGN's vision has been defined as follows:

[8] A 'national development' must be supported in all lower tier plans and strategies.

"By 2050, Central Scotland has been transformed into a place where the environment adds value to the economy and where people's lives are enriched by its quality".

1.21 Over the lifespan of NPF3, the CSGN and its lead organisations will focus on:

- Promoting active travel;
- Addressing vacant and derelict land; and
- Focussing action in disadvantaged areas to maximise community and health benefits.

There is substantial synergy between the aims of the CSGN and those of the Falkirk Forestry and Woodland Strategy. It is anticipated that the Strategy will be a key tool for delivering CSGN actions in Falkirk.

Planning

National Planning Framework

1.22 **National Planning Framework 3 (NPF3)**[9] was published on the 23rd June 2014, aims to increase the rate of woodland creation to deliver 100,000 hectares of new woodland over the next 10 years. In addition, NPF3 pledges to plant 100 million trees by 2015.

Scottish Planning Policy

1.23 Scottish Planning Policy (SPP) sets out the Scottish Government's national level policy on the purpose, practice and core principles of spatial planning.

1.24 In parallel with the NPF3, Scottish Planning Policy was published on the 23rd June 2014.

1.25 Paragraph 194 of the **Scottish Planning Policy**[10] requires the protection and enhancement of ancient and semi-natural woodland as an important and irreplaceable resource, together with other native or long established woods, hedgerows and individual trees with high nature conservation or landscape value. It highlights the value of the Native Woodland Survey of Scotland in the production of forestry and woodland strategies. Paragraph 201 states that *"plans should identify woodlands of high nature conservation value and include policies for protecting them and enhancing their condition and resilience to climate change".* Paragraph 201 also states that planning authorities should prepare forestry and woodland strategies as supplementary guidance to inform the development of forestry and woodland in their area, including the expansion of woodland of a range of types to provide multiple benefits. In addition, paragraph 201 highlights that Scottish Government advice on planning for forestry and woodland is set out in The Right Tree in the Right Place.

1.26 The SPP acknowledges the role that woodlands can play in climate change mitigation and adaptation. Paragraph 220 states that green infrastructure should be protected and enhanced to provide multiple benefits.

Development Plan

1.27 Policy ENV.6 of the **Falkirk Council Structure Plan 2007**[11] encourages the continued development of programmes of action to enhance the countryside around towns/villages identified within the Falkirk Greenspace Initiative through tree planting, habitat enhancement, and measures to improve access to the countryside. It also states that it will contribute to the Central Scotland Forest Initiative through partnership working with Central Scotland Forest Trust (now the Central Scotland Green Network Trust) to deliver landscape improvements, habitat enhancement and tree planting.

1.28 Policy EQ26 of the **Falkirk Council Local Plan**[12] and Policy GN04 of the **Proposed Local Development Plan**[13] recognise the ecological, landscape, economic and recreational importance of trees, woodland and hedgerows. The policies state that states that the enhancement and management of existing woodland and hedgerows will be encouraged. There is a preference for

[9] Scottish Government, 2014. *Scotland's Third National Planning Framework.* Edinburgh: Scottish Government.
[10] Scottish Government, 2014. *Scottish Planning Policy.* Edinburgh: Scottish Government.
[11] Falkirk Council, 2007. *Falkirk Council Structure Plan 2007.* Falkirk: Falkirk Council.
[12] Falkirk Council, 2010. *The Falkirk Council Local Plan.* Falkirk: Falkirk Council.
[13] Falkirk Council, 2013. *Falkirk Local Development Plan Proposed Plan*. Falkirk: Falkirk Council.

the use of appropriate local native species in new and replanting schemes, or non-native species which are integral to the historic landscape character. Compensatory planting will be required for developments which involve the felling of trees.

Forestry and Planning

The Right Tree in the Right Place – Planning for Forestry and Woodlands

1.29 **The Right Tree in the Right Place – Planning for Forestry and Woodlands**[14] sets the current context for the production of indicative forestry strategies. New forestry and woodland strategies have been published for Glasgow and the Clyde Valley[15], Edinburgh and the Lothians, Stirling and Clackmannanshire, Fife, Argyll and Bute, Dumfries and Galloway, and Ayrshire and Arran.

Getting the best from our land: A Land Use Strategy for Scotland

1.30 **Getting the best from our land: A Land Use Strategy for Scotland**[16] sets the strategic framework for bringing together proposals for optimising the potential of Scotland's land resources.

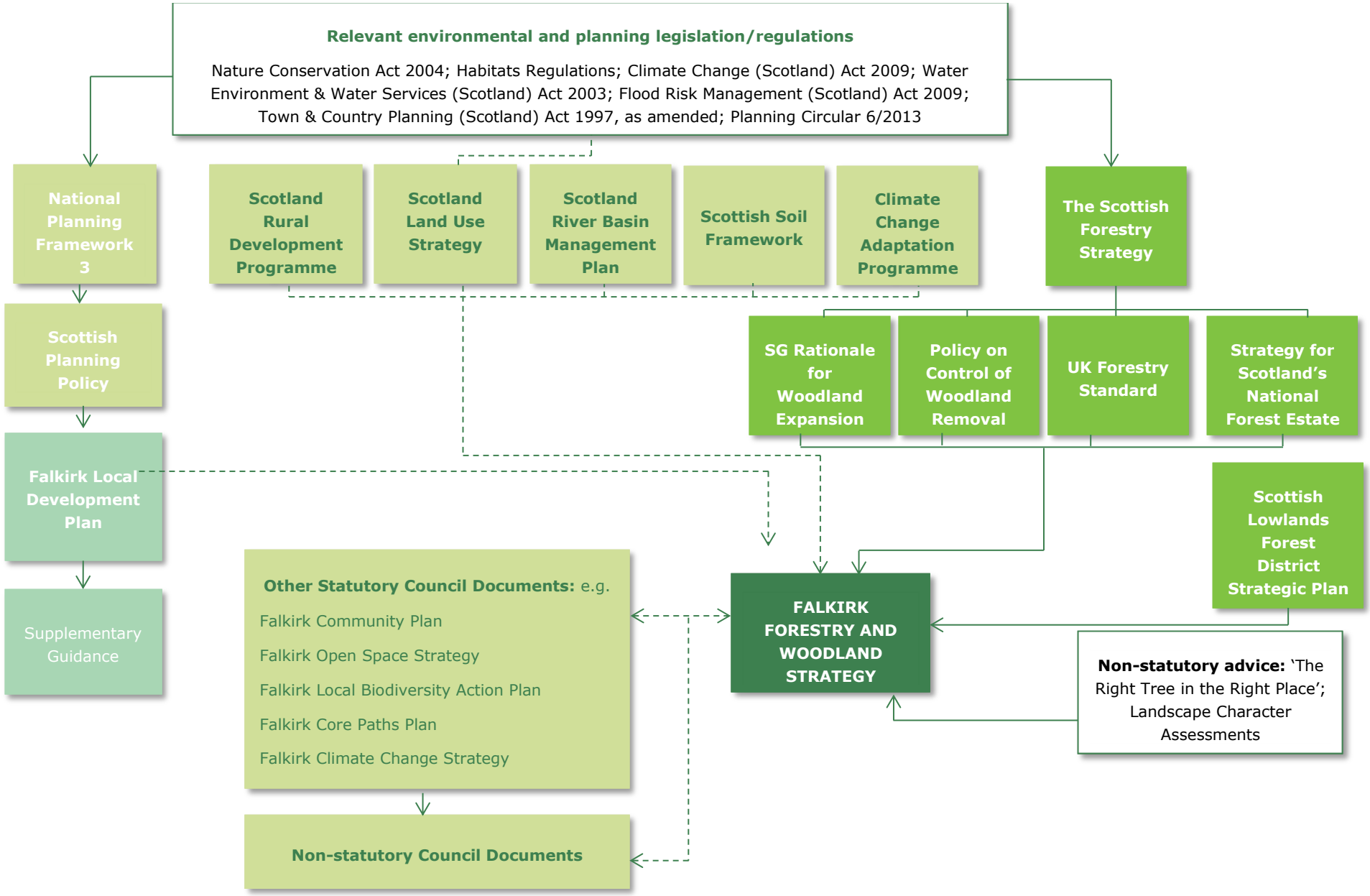
1.31 The policy context of the Falkirk Forestry and Woodland Strategy is outlined in Diagram 1.1.

[14] Scottish Government, 2010. *The Right Tree in the Right Place – Planning for Forestry and Woodlands.* [pdf] Edinburgh: Forestry Commission Scotland. Available at: http://www.forestry.gov.uk/pdf/fcfc129.pdf/$FILE/fcfc129.pdf [Accessed 01 April 2014]

[15] A revised version of the Glasgow and Clyde Valley Forestry and Woodland Strategy is currently being prepared and is anticipated to be finalised in 2015.

[16] Scottish Government, 2011. *Getting the Best from our Land: A Land Use Strategy for Scotland.* Edinburgh: Scottish Government.

Diagram 1.1 Falkirk Forestry and Woodland Strategy policy context



Operational

1.32 The Strategy is intended to provide broad strategic, locational and environmental advice to those seeking to manage or expand woodlands. It cannot provide detailed guidance on site-specific sensitivities or the suitability of individual proposals. The importance of site-specific assessment of individual proposals for woodland expansion, or woodland removal, remains paramount.

1.33 It complements – and relies on – the existing regulatory process administered by Forestry Commission Scotland under the Forestry Act 1967 and the Environmental Impact Assessment (Forestry) (Scotland) Regulations 1999. Where woodland creation or removal accompanies development within the meaning of the planning acts, Falkirk Council is responsible for determining applications. Where this is associated with applications for energy developments over 50MW and overhead transmission lines, the Scottish Ministers are responsible for the determination, normally through the Scottish Government Energy Consents Unit.

1.34 In addition, woodland expansion and management will be expected to comply with the UK Forestry Standard and Forestry Commission Scotland Guidelines and practice notes.

Status of the Forestry and Woodland Strategy

1.35 The Strategy is a stand-alone document, replacing the Indicative Forestry Strategy in the Structure Plan and the Falkirk Urban Woodland Strategy, and will support the Falkirk Local Development Plan. Furthermore, it can be a material consideration in planning decisions involving development proposals affecting woodland[17].

Table 1.1 Policy context summary

Forestry	Planning	Natural heritage	Historic environment	Water and soil
Climate Change (Scotland) Act 2009; Forestry Act 1967 **Environmental Impact Assessment (Forestry) (Scotland) Regulations 1999**	Town and Country Planning (Scotland) Act 1997, as amended **Environmental Impact Assessment (Scotland) Regulations 2011, as amended**	Nature Conservation (Scotland) Act 2004; **The Conservation (Natural Habitats &c.) Regulations 1994, as amended**; Wildlife and Countryside Act 1981	Historic Environment (Amendment) Act 2011	Water Environment and Water Services (Scotland) Act 2003; Flood Risk Management (Scotland) Act 2009;
UK Forestry Standard; Scottish Forestry Strategy 2006 (SFS); (Scotland Rural Development Plan)	Scottish Planning Policy (SPP); National Planning Framework 3	2020 Challenge for Scotland's Biodiversity: A strategy for the conservation and enhancement of biodiversity in Scotland	Scottish Historic Environment Policy (SHEP) 'Our Place in Time': The historic environment strategy for Scotland	Scottish Soil Framework; 'Getting the Best from out Land': A land use Strategy for Scotland; Scotland River Basin Management Plan;
Scottish Government Rationale for Woodland Expansion; Policy on the Control of Woodland Removal;			Scotland's Woodlands and the Historic Environment	
National Forest Estate Strategic Plan / Forest	Falkirk Local			Forth Area Management

[17] As defined in Paragraph i of Scottish Planning Policy and Annex A of Circular 4/2009 *Development Management Procedures.*

Forestry	Planning	Natural heritage	Historic environment	Water and soil
District Strategic Plan FC Guidelines	Development Plan	Forests and landscape ; Forests and Biodiversity	Conserving and managing trees and woodlands in Scotland's designed landscapes Forests and the Historic Environment	Plan Forests and Water; Forests and Soil Guidelines; Forests and Peatlands

Timescale

1.36 The Falkirk Forestry and Woodland Strategy has been developed through consultation with a wide range of stakeholders and provides a strategic framework for forestry and woodland management and expansion in the area. The time horizon and lifespan of the Strategy covers a 40 year period from 2015 to 2055 – and incorporates 5 yearly reviews. Woodland and forestry creation, and management are intrinsically long-term activities, which require long-term planning to make an effective contribution. Securing green networks and the multiple benefits that woodland and forestry can provide needs a vision that works in parallel with aspirations for economic and social development.

Using the Strategy

1.37 The Falkirk Forestry and Woodland Strategy is intended to be accessible and useful for everyone with an interest in woodland and forestry issues including public agencies, Local Authority Officers and elected Members, landowners, forest managers and agents, private sector businesses and individuals, representative organisation and community partnerships. The following paragraphs provide further details on how the Strategy will be of particular benefit to a range of stakeholders.

Falkirk Council

1.38 The Falkirk Forestry and Woodland Strategy, and associated spatial data, will inform the planning authority's development management decisions that include proposals for woodland removal or creation, and in developing locally-focussed action plans for woodland expansion and management.

1.39 The Strategy, as a stand-alone document, will support the Falkirk Local Development Plan. It can be a material consideration in planning decisions and will inform the authority's responses to applications for woodland creation and management funding under the emerging Scotland Rural Development Programme 2014-20 (SRDP).

1.40 The Strategy will be interpreted and applied in line with existing and emerging policy frameworks, and the priorities identified in the Single Outcome Agreements between the Falkirk Community Planning Partnership and the Scottish Government.

Forestry Commission Scotland

1.41 Forestry Commission Scotland (FCS) will require land managers seeking grants for woodland expansion or management to develop their proposals in line with this Strategy, ensuring that opportunities are maximised while taking account of environmental and other constraints.

1.42 Proposals will be assessed in line with relevant forestry legislation and policy, and will be expected to comply with the UK Forestry Standard (UKFS) and relevant FCS technical guidance.

1.43 The Strategy will also assist with the development and approval of Felling Licences, Forestry District Strategic Plans and long-term Forest Plans and Land Management Plans.

Woodland managers and developers

1.44 The private sector will be central to delivering a significant component of the target for woodland cover in the region, and across Scotland as a whole.

1.45 The Strategy provides a clear vision for how the woodland resource and forest-based economy in the region should develop over the next 40 year period. The priorities established in the following chapters provide guidance on what type of woodland management and creation schemes are likely to be supported.

Communities

1.46 The Strategy provides communities with a useful insight into the key issues, and the potential patterns of woodland management that could develop in their area and highlights the benefits that can be derived from woodland by local people. It also sets out the range of social, environmental and economic benefits that the partners expect woodland and forestry to deliver to communities.

Delivery and monitoring

1.47 To facilitate implementation, the strategic aims of the Strategy are translated into objectives and priorities to be pursued by the partners in the region's development. The partners include:

- Woodland sector businesses, industry groups and representatives;
- Land managers – farmers, estates and stakeholders with an interest in woodland delivery;
- Forestry Commission Scotland;
- Central Scotland Green Network Trust;
- Falkirk Council;
- Scottish Natural Heritage;
- Community organisations, Community Councils, Housing Associations, etc. and,
- Local communities.

1.48 Falkirk Council will take the lead in developing locally-focused and thematic actions plans to deliver the aims of the Strategy.

1.49 Performance against the aims, objectives and priorities of the Strategy will be monitored by partners and fed into action planning and future revisions.

2 Falkirk's woodlands

Introduction

2.1 This section of the Strategy establishes the current nature, scale and distribution of Falkirk's woodland resource and the benefits currently delivered. It then sets out the partners' vision for woodlands in Falkirk, and the steps required to make this happen.

Where we are now…

Overview

2.2 Currently, woodland of all types accounts for around 17% of Falkirk's total land area. While this is a little below the Scottish average, Falkirk's comparatively small size and relatively large urban area are key factors in the availability of land for woodland creation.

2.3 Woodland and trees make a distinctive contribution to the character and quality of the area's landscapes and townscapes – from the new high quality urban green spaces of the Helix project and the historic designed landscape of Callendar Park to the native woodland networks in the Carron and Avon valleys. Unusually for Scotland, Falkirk has roughly equal proportions of conifer and broadleaved woodland. As a consequence of its mainly lowland landscapes and generally productive farmland, Falkirk did not experience the extensive upland afforestation during the 1970s and 1980s that generated much of Scotland's current woodland cover.

2.4 Like much of Central Scotland, Falkirk has a significant post-industrial legacy as a consequence of a long history of extractive and heavy industries. Dealing with the social and environmental issues created by this legacy has therefore been a priority for Falkirk Council and its partners over the last two decades. To this end, the establishment of the Falkirk Greenspace Initiative and the Central Scotland Forest Trust (now the Central Scotland Green Network Trust) in 1993 and 1994 respectively were key events and laid the groundwork for extensive, innovative environmental enhancement. In turn, these organisations and their partners have attracted millions of pounds worth of funding and investment that has made a significant contribution to improving the social, economic and environmental conditions for people in Falkirk.

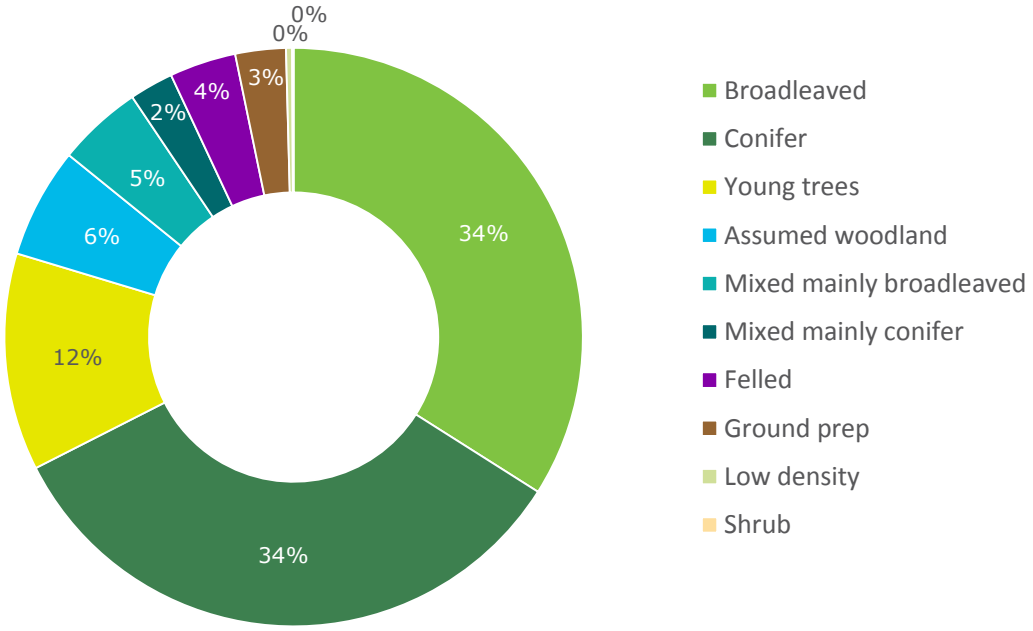
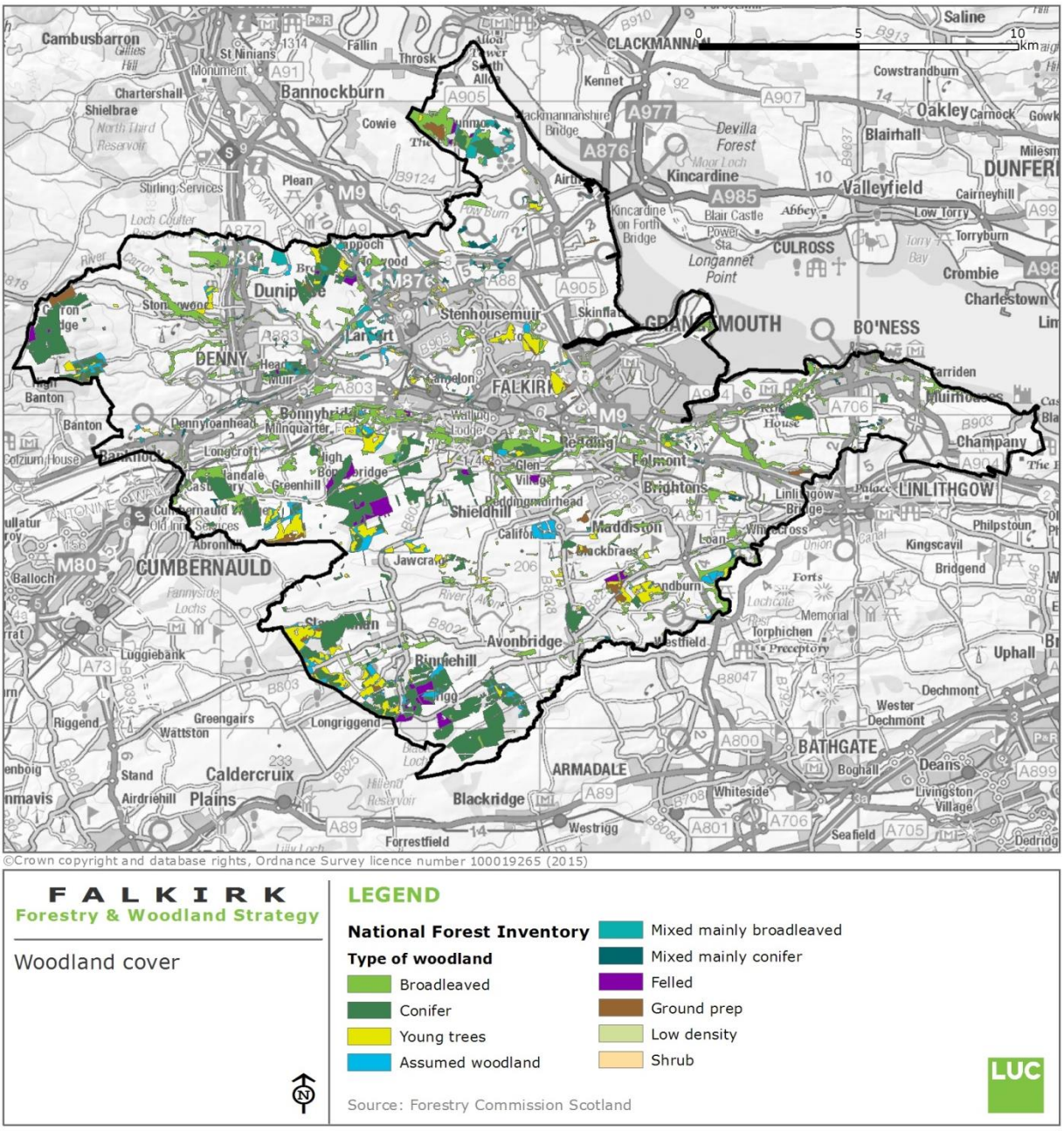


Diagram 2.1 Composition of Falkirk's woodland resource

Figure 2.1 Current woodland cover



FALKIRK
Forestry & Woodland Strategy

Woodland cover

LEGEND

National Forest Inventory

Type of woodland

- Broadleaved
- Conifer
- Young trees
- Assumed woodland
- Mixed mainly broadleaved
- Mixed mainly conifer
- Felled
- Ground prep
- Low density
- Shrub

Source: Forestry Commission Scotland

LUC

Woodland types

Softwood forests

2.5 The majority of Falkirk's softwood resource – comprising around a third of all woodland in the area – is located on the plateau farmlands to the south of the main Falkirk conurbation. Substantial blocks of conifer ring the edges of the Slamannan Plateau on the boundaries with North Lanarkshire and West Lothian. Restructuring and diversification of the species mix within some of these plantations is already underway, providing improved habitat and enhancing local landscapes. Some larger conifer forests are also present on the eastern slopes of the Kilsyth Hills and between Denny and Stenhousemuir. These forests make an important economic contribution to the rural area, as well as producing a sustainable timber supply to meet the needs of Scotland's growing timber processing sector.

2.6 In previous decades, some of the softwood resource was established on peat soils and may, with appropriate investigations, provide opportunities for peatland restoration. Similarly, some larger blocks in prominent locations may benefit from improved design approaches, incorporating more

naturalistic forms and including a higher proportion of native species in riparian corridors and on their margins.

Energy forests

2.7 Falkirk currently has no single-use energy forests, such as short-rotation coppice or short-rotation forestry. However, this could change relatively rapidly should a suitable market emerge – for instance, development of a large-scale biomass heat and power installation such as those recently granted consent at Rosyth and Grangemouth[18].

2.8 At present, woodfuel supply in Falkirk is sourced from management of existing woodlands in the form of waste wood from timber production and low grade timber with no viable economic use. For example, Callendar Estate has been involved in biomass production since 2007, supplying around 2000 tonnes of material per year in the form of wood chip. The local market is still in its infancy, and therefore significant opportunities exist for both users and suppliers to take advantage of this potential.

Mixed woodlands

2.9 Falkirk's mixed woodland resource is comparatively small scale and somewhat fragmentary, accounting for around 7% of total cover. A small but significant proportion of this resource relates to planting in and around the area's historic gardens and designed landscapes, while the remainder is concentrated in relatively recent amenity and structure planting. In transport corridors, particularly that of the M80, mixed woodlands play an important role in mitigating air and noise pollution.

2.10 As the resource is currently small in scale, there is comparatively little timber production associated with these woodlands.

Native woodlands

2.11 Broadleaved woodland makes up over a third of Falkirk's woodland cover, the majority (c.85%) of which is classified as native. This resource is concentrated the three bands, running broadly east to west across the area; from the Kilsyth Hills to Larbert; from Castlecary through the middle of Falkirk to Polmont; and along the Avon Valley on the boundary with West Lothian.

2.12 Two areas of native woodland – Carron Glen and the Avon Gorge – are designated as Sites of Special Scientific Interest (SSSI) for their natural heritage value. In urban Falkirk, a number of relatively large-scale native woodlands make a major contribution to habitat networks and create substantial 'green oases' within the built-up area, also providing important recreation opportunities. Local Nature Reserves (LNRs) and Sites of Importance for Nature Conservation (SINCs) make a particularly important contribution in securing high quality environments close to where people live. Callendar Park and Rough Castle woods, adjacent to the Falkirk Wheel, also make a major contribution to the setting of two substantial upstanding sections of the Antonine Wall, part of the transnational 'Frontiers of the Roman Empire' World Heritage Site.

2.13 Particularly in the south of the area, native woodlands are often small and fragmented, reducing the potential value of the habitat to support either stable or transient populations of key species.

Urban woodlands

2.14 The town of Falkirk itself is well provided with urban woodlands, much of which is high quality and has benefitted from extensive management and enhancement by the Council, the Falkirk Greenspace Initiative and the Central Scotland Green Network Trust, as well as private landowners. Much of the resource is concentrated in large urban green spaces, notably Callendar, Dollar and Summerford Parks. The town also benefits from the major green corridors created by the Union and Forth and Clyde Canals, and the associated woodland at Bantaskine / Tamfourhill and Hallglen. To the north, the River Carron provides a green artery separating Falkirk, Carron and Stenhousemuir. Although strongly associated with historical industry, major environmental enhancement has created extensive, high quality networks of woodland and important recreation opportunities. Linking with the new Helix Park, this is a key component of the green network.

[18] Consent was granted by Scottish Ministers for a 120MW biomass-fired combined heat and power station at the Port of Grangemouth in 2013, and a 100MW plant at Rosyth, in Fife, in early 2013. While the original developer pulled out in 2014, these projects could still go ahead if a suitable buyer for the site is found while the consents remain valid.

2.15 To the east of Falkirk, Westquarter, Polmont and Redding are characterised by 20th century development woven into a landscape structure created by a series of wooded riparian corridors, relict designed landscapes and amenity planting. Bo'ness's Victorian and Edwardian suburbs have a particularly 'green' feel, with generous areas of public open space and planting, in part necessitated by the topography as the settlement steps down the raised beach formations. 20th century development to the south of the settlement core is also furnished with significant areas of amenity green space, although – with the exception of the Dean Burn corridor – trees and woodland are a much less significant element of character. To the east, the former policies of Carriden House provide important landscape structure and help form the setting of new development.

2.16 As a largely 20th century settlements, Stenhousemuir and Larbert have reasonable quantities of green space included within their layouts. The former policies of Larbert House – now containing the Forth Valley Royal Hospital – are an important feature to the west of the settlement, and a number of good quality green spaces provide links down to the River Carron and the Carron Dams Local Nature Reserve.

2.17 Denny and Dunipace also have significant fingers of woodland and open space punctuating the developed area and providing important screening from the noise and air pollution generated by the M80.

Where we want to be…

A vision for woodland and forestry

By 2055, an expanded and better connected network of high quality woodland will make a significantly enhanced contribution to Falkirk's economy, the health and well-being of our communities and the quality and resilience of our environments.

How we're going to get there…

Cross-cutting principles

2.18 The Falkirk Forestry and Woodland Strategy sits within a complex legislative and policy context, as illustrated in Table 1.1 above, and relies on a range of pre-existing regulatory processes to implement its priorities and provide robust decision-making processes. Therefore, the Strategy can only play an advisory role in relation to environmental protection and the weighing of potential benefits against likely impacts. Detailed site-specific assessment of proposals for woodland creation and management will always be required to provide this information and contribute to well-informed decisions.

2.19 The following policy principles, drawn from the forestry, planning and wider environmental protection regimes acting upon woodland creation and management practice, will influence delivery of all of the Strategy's priorities. They provide a robust framework to ensure that national and international legislative policy and regulatory commitments are adhered to and that the core aims of the Scottish and UK Governments' aspirations for woodland – embodied by the Scottish Forestry Strategy and the UK Forestry Standard – are achieved.

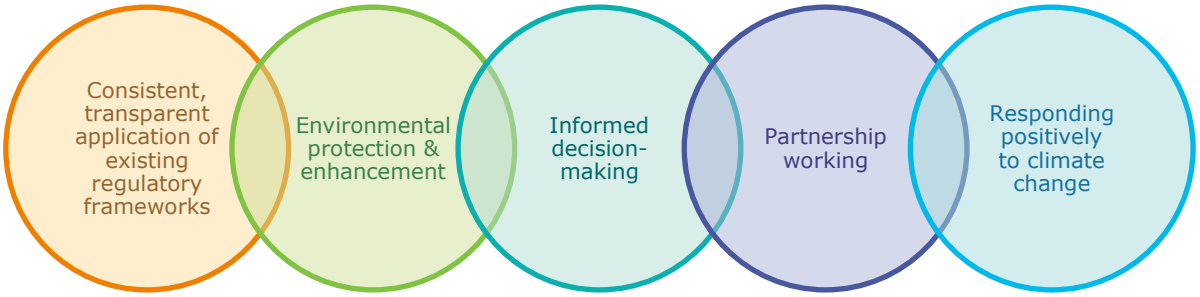


Diagram 2.2 Cross-cutting principles

Aims and objectives

2.20 The Vision for the Strategy will be achieved through the following **aims**, supported by a number of **objectives**.

Expand and manage…

Expanding Falkirk's woodland resource and improving its management

- Encourage the creation of well-designed woodland of an appropriate nature, scale and composition to enable the delivery of multiple benefits.
- Promote improved management of Falkirk's woodland resource.
- Promote high standards of woodland design in new and existing woodlands.
- Contribute towards the delivery of 10,000ha of woodland expansion per year nationally to help Scotland fulfil its ambitious CO_2 reduction commitments.

Climate change…

Improving woodlands' contribution to climate resilience and reducing our impacts

- Contribute to emissions reduction.
- Encourage adaptation to the predicted effects of climate change.

Environment…

Enhancing the quality of Falkirk's environment

- Improve the condition and resilience of biodiversity.
- Contribute to the delivery of the Central Scotland Green Network.
- Improve woodlands' contribution to the conservation and management of ecosystem functions and services.
- Contribute to the conservation, enhancement and understanding of Falkirk's valued natural heritage and historic environment.

Economy…

Optimising Falkirk's forest and woodland economy

- Promote Falkirk's woodlands as visitor destinations and encourage the growth of woodland-based tourism and recreation.
- Support the sustainable development of Falkirk's forest industries.
- Celebrate and build on the success of trees and woodlands' contribution to regeneration and high quality development in Falkirk.
- Contribute to diversification and sustainability of the rural economy and communities.

Community and quality of life…

Empowering communities and enhancing quality of life

- Facilitate community involvement in woodland planning, management and ownership.
- Support community enterprise and development.
- Support opportunities for education and lifelong learning.
- Contribute to physical and mental health wellbeing.
- Enhance local sense of place and promoting connections to the wider environment.

2.21 These aims and objectives are developed in the following sections of the Strategy and are each supported by more detailed priorities for their delivery. The aims, objectives, and priorities are collated in a reference table in Appendix 1 for ease and to provide a framework for informing more detailed action plans and monitoring progress.

Implementation

2.22 As noted above, the Strategy does not stand alone. It will be interpreted, applied and delivered through two key routes:

- The Scotland Rural Development Programme (SRDP) grants, EIA process and felling licensing, administered by Forestry Commission Scotland.
- The Town and Country Planning system and related consents, administered by:
  - Falkirk Council, for the purposes of development planning and development management; and,
  - Scottish Ministers, for planning appeals, 'called-in' applications and energy consents[19].

2.23 Through either route, good planning and rigorous assessment are essential, ensuring that site-specific issues, opportunities and constraints are fully understood and other regulatory requirements are met.

Environmental Impact Assessment

2.24 Some types of forestry and development projects have the potential for significant environmental effects, including:

- Energy, extractive industries, waste processing, infrastructure development or larger-scale housing;
- Development with the potential to generate pollution[20];
- Afforestation over 5ha (no threshold in: SSSI, Natura 2000 sites, World Heritage Sites, Scheduled Monuments);
- Woodland removal over 1 ha (no threshold as above); and,
- Forest roads and quarries over 1ha (no thresholds as above)[21].

2.25 It is for the decision-making body (Falkirk Council for development; Forestry Commission Scotland for forest roads, quarries, woodland creation and removal) to determine whether a proposal could have significant environmental effects and require formal EIA processes.

Habitats Regulations Appraisal

2.26 Where forestry or development plans or projects are likely to have significant effects on Natura 2000 sites – Special Areas of Conservation and Special Protection Areas – the Habitats Regulations require competent authorities (i.e. the body making a decision on proposals or management plans) to undertake an assessment of these effects. This requirement applies to any plan or project that has the potential to affect a Natura site, regardless of how far away the proposed activities may take place. 'Habitats Regulations Appraisal' (HRA) refers to the whole assessment process:

- Screening: to determine whether the plan or project will have likely significant effects on the qualifying interests and conservation objectives of the site and, hence, whether appropriate assessment is required.
- 'Appropriate assessment'[22]: assessing each of the likely significant effects in detail, setting out detailed conclusions and what actions are proposed to ensure compliance with the Habitats Regulations (i.e. to avoid or mitigate impacts).

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[19] For example under Sections 36 (generating stations) and 37 (overhead transmission) of the Electricity Act 1989, as amended.

[20] A full list is provided in Schedules 1 and 2 of the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2011

[21] Guidance on EIA of forestry projects can be obtained from the FCS website.

[22] Regulation 48 of The Conservation (Natural Habitats, &c.) Regulations 1994, as amended, requires competent authorities to make 'an appropriate assessment' of the implications for the site and its conservation objectives of any likely significant effects

- HRA Record: a succinct document setting out the findings of the process and correspondence with SNH.

2.27 Competent authorities, in consultation with SNH, determine whether HRA is required.

3 Expand and manage

Introduction

3.1 Creating and managing woodland is an intrinsically long-term activity. Decisions made today will affect the environment and resources available to future generations. This part of the Strategy sets out how woodlands should be managed, enhanced and expanded to achieve the Vision.

3.2 To be successful and sustainable, woodland needs to be planned for and managed in a way that is well integrated with other uses of, and aspirations for, the Falkirk's finite land resources. A key role of this Strategy is therefore to encourage new planting and management activities to areas where benefits can be optimised. Equally, there may be instances where existing woodland is not the optimal land use, and the Strategy provides guidance to aid decision-making and steer appropriate compensatory planting to locations where a wider range of benefits can be delivered[23].

3.3 The Strategy has four overarching objectives to help expand Falkirk's woodland resource and improve its management:

- Encourage the creation of well-designed woodland of an appropriate nature, scale and composition to enable the delivery of multiple benefits.
- Promote improved management of Falkirk's woodland resource.
- Promote high standards of woodland design.
- Contribute towards the delivery of 10,000ha of woodland expansion per year nationally to help Scotland fulfil its ambitious CO_2 reduction commitments.

3.4 These objectives cut across all of the Strategy's other aims and objectives, and should be at the heart of all woodland-related activities in the region. The following sections of the Strategy set out:

- The types, appropriate locations and scales of new woodland that can best deliver multiple benefits and help Falkirk make a sustainable contribution to national woodland expansion targets.
- The key management priorities for existing woodlands.
- The main issues that should be taken into account when planning and designing new woodlands, or managing existing resources.

Chapter 8 of this Strategy provides spatially-specific guidance on local issues and opportunities, and where new woodland can add social, economic and environmental value.

Encourage the creation of well-designed woodlands of an appropriate nature, scale and composition to enable the delivery of multiple benefits

The current situation

3.5 Currently, Falkirk's woodland resource accounts for around 17% of the total land area. While rates of woodland creation in the area have historically been slightly higher than some other parts of

[23] In line with the Scottish Government *Policy on the Control of Woodland Removal* – a strong presumption against woodland removal exists except where it would achieve significant and clearly defined additional public benefits.

lowland Scotland – principally as a consequence of the activities of the Central Scotland Green Network Trust, Falkirk Council and the Falkirk Greenspace Initiative – this has largely focussed on the urban and peri-urban area.

3.6 Programmes like Forestry Commission Scotland's Woods In and Around Towns (WIAT) have made a significant contribution to enhancing existing woodlands close to where people live, and creating opportunities for them to use, understand and enjoy this valuable resource. Similarly, efforts to remediate and regenerate vacant and derelict land have successfully delivering substantial new areas of good quality woodland.

3.7 Various iterations of rural support mechanisms delivered a sizeable area (c.1,300ha[24]) of well-designed multi-benefit woodland. This focussed particularly on and around the fringes of the Slamannan Plateau during the 1990s and 2000s. Progress in recent years has slowed substantially - partly as a consequence of changes to incentive mechanisms. However, the new Forestry Grant Scheme 2014-2020 contains specific Central Scotland Green Network targeted measures aimed at supporting woodland creation within this area and wider region.

Future extent of woodland

National objectives

3.8 It is the aim of the Scottish Government to encourage the creation of an additional 10,000ha of new woodland every year nationwide, thereby:

- helping tackle greenhouse gas emissions;
- restoring lost and degraded habitats and aiding adaptation to climate change;
- helping manage ecosystem services;
- underpinning a sustainable forest products industry;
- providing community benefits; and,
- enhancing urban areas and improving landscapes[25].

3.9 The Central Scotland Green Network (CSGN) adds an extra dimension in Falkirk, particularly in and around the urban area. The CSGN creates a range of opportunities for woodland to contribute to regeneration, improving access to quality environments and assisting in local efforts to adapt to climate change.

Land categorisation

3.10 Based on the recommendations in **The Right Tree in the Right Place – Planning for Forestry and Woodlands**[26] (2010), the Strategy will split areas with the capability to support woodland expansion into three categories with increasing levels of constraint, i.e. Preferred, Potential, and Sensitive. In addition, areas physically unsuitable for woodland, built-up areas and existing woodland will be used in the analysis.

3.11 Categorisation is necessarily a strategic process, giving a general impression of an area's suitability or otherwise for woodland expansion – on detailed examination there will inevitably be areas that could readily fall into a different category.

3.12 The importance of site-specific assessment of individual proposals for woodland expansion, or woodland removal, is therefore paramount.

Table 3.1 Land categories

Land Category	Description
Built-up	Settlements, within which the opportunities for woodland creation are often too small to map effectively at a strategic scale.
Existing woodland	Land currently under woodland of all types.

[24] Collated from FCS Woodland Grants Schemes, Scottish Forestry Grant Schemes and Rural Development Contracts data.

[25] Scottish Government Rationale for Woodland Expansion, p.6.

[26] Forestry Commission Scotland, 2010. *The Right Tree in the Right Place – Planning for Forestry and Woodlands.* [pdf] Edinburgh: Forestry Commission Scotland. Available at: http://www.forestry.gov.uk/pdf/fcfc129.pdf/$FILE/fcfc129.pdf [Accessed 01 April 2014]

Land Category	Description
Preferred	Land with no strategic constraints, which offers the greatest scope to accommodate future expansion of a range of woodland types, and hence, to deliver on a very wide range of objectives. Within preferred areas sensitivities are, in general, likely to be limited, and it should be possible to address any particular site specific issues within well-designed proposals that meet the UK Forestry Standard and associated guidelines. Future woodland expansion is therefore likely to be focused on preferred areas.
Potential	Land which offers considerable potential to accommodate future expansion of a range of woodland types, but where at least one significant sensitivity exists. The extent to which specific proposals in potential areas will be permissible will depend on how well sensitivities can be addressed within the proposals. The design of schemes in such areas will require careful, site-specific consideration to ensure they are of an appropriate type and scale to be successfully accommodated.
Sensitive	Land on which, due to a combination of sensitivities, there is limited scope to accommodate further woodland expansion. Limited woodland expansion is only likely to be possible within sensitive areas where it is of a scale and character which can be accommodated without significant negative impacts and/or where it would positively enhance the features of interest locally.
Unsuitable	Land physically unsuitable for the growth or management of trees. For completeness, this includes areas of inland open water.

3.13 The indicative potential for woodland expansion map illustrates the general level of constraint / opportunity for woodland expansion – **not** land which the Strategy proposes should be planted. How and where proposals for woodland management or expansion come forward will be driven by landowners' decisions, and these will be subject to a process of rigorous assessment by the regulatory authorities on a case by case basis.

3.14 Woodland is one of many possible uses for much of the region's land. Inclusion within the 'preferred' or 'potential' land classes should not be interpreted as precluding other viable and environmentally acceptable land uses.

Potential for expansion

3.15 Figure 3.1 indicates the level of potential for woodland expansion across Falkirk. The map requires careful interpretation and does not illustrate the areas that will, should, or should not, be planted. Instead, it depicts the broad level of environmental sensitivity of the region to new woodland of all types.

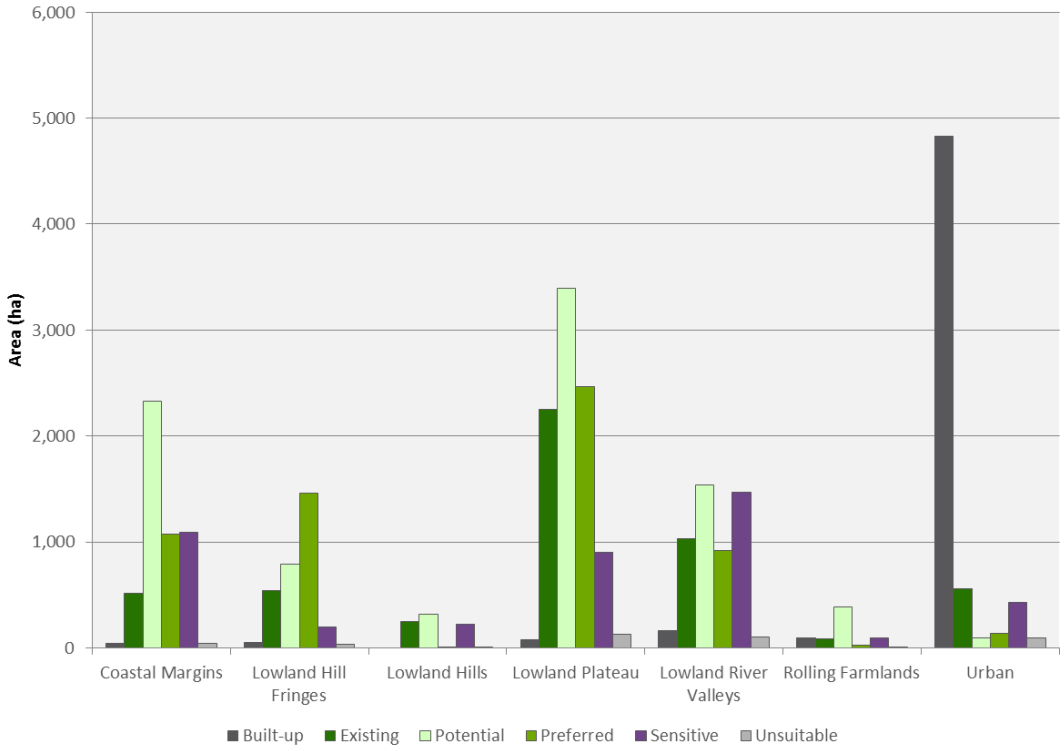
3.16 There is significant potential to accommodate new woodland within the region – with around half of Falkirk's land area assessed as having some capacity. This equates to an area almost three times as large as that currently under woodland.

3.17 While it would be neither practical nor desirable to suggest that this area should be entirely converted to woodland, it does illustrate the land with the greatest opportunity to accommodate and expansion in total woodland cover, and the potential of the Falkirk area to make an expanded contribution to Scottish Government aspirations.

3.18 This potential is not, however, evenly distributed throughout the region as Diagram 3.1 illustrates. For a relatively small local authority area, Falkirk is subject to an extensive range of environmental constraints that have an important influence on the nature, scale and distribution of appropriate woodland creation. A substantial area is therefore classified as being 'sensitive' to woodland expansion. This does not mean that these are 'no go' areas for new woodlands – but the significance of the constraints limits the type and scale of woodland that can be supported and highlights the need for exemplary planning, consultation and design.

3.19 Section 8 of the Strategy provides more detailed guidance on the types of woodland that are best suited to the opportunities of each of Falkirk's landscape type.

Diagram 3.1 Chart showing distribution of potential for woodland expansion



Aspiration for woodland expansion

3.20 Using the figures derived from the GIS analysis outlined above, the Strategic Environmental Assessment (SEA) process tested a number of possible scenarios for woodland expansion in Falkirk. This process was intended to determine an ambitious, but achievable and environmentally, economically and socially sustainable aspiration for the sector to work towards.

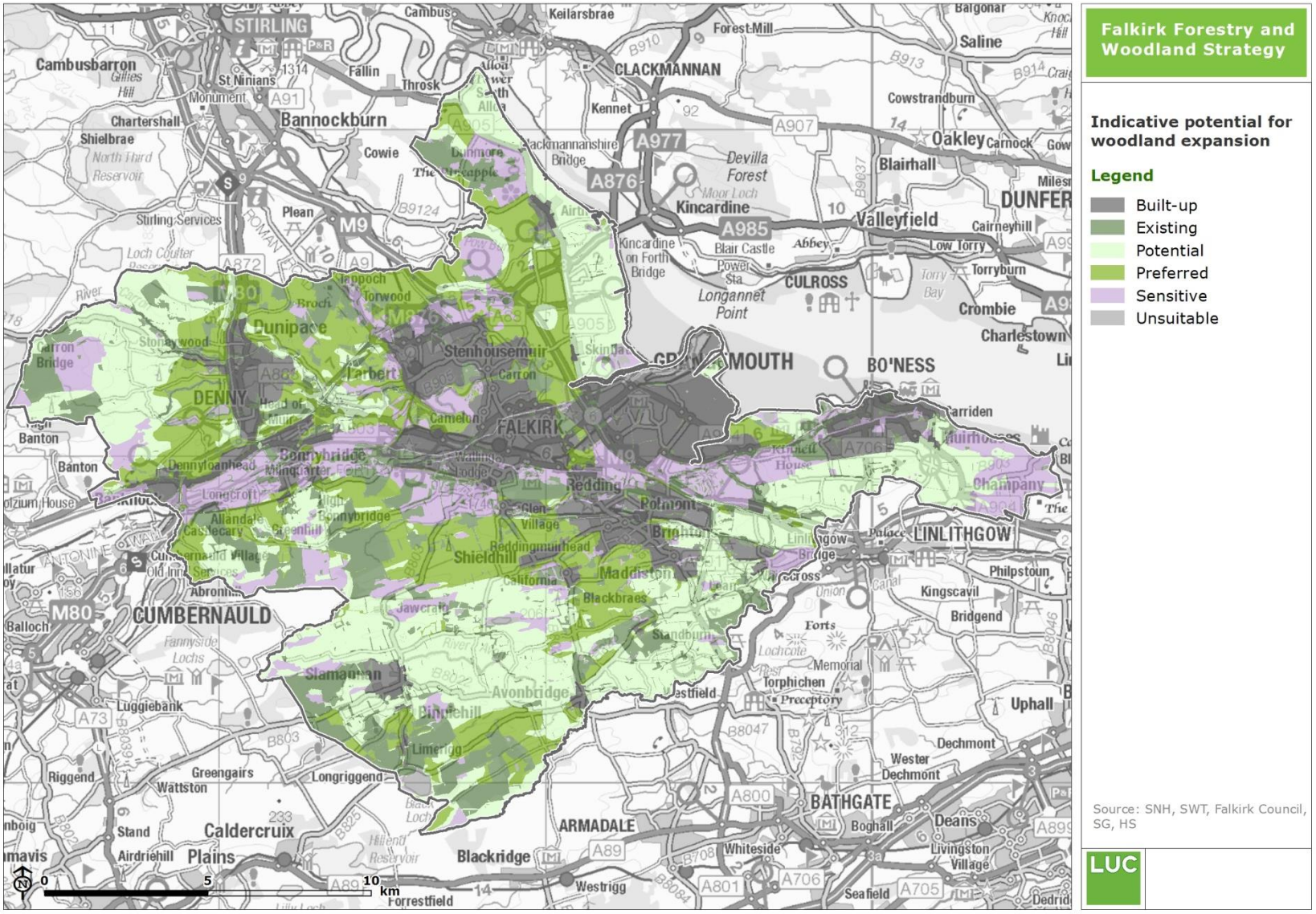
3.21 It has therefore been calculated that the Falkirk local authority area could readily accommodate woodland cover of a little over **20% of land area** – an increase of approximately 852ha – over the lifetime of the Strategy. No annual 'target' has been set for the delivery of this aspiration, as it would be unrealistic for a comparatively small local authority area where rates of expansion are likely to vary significantly from year to year.

The following sections of the Strategy set out the appropriate location, nature and scale of new woodland that can help deliver this aspiration, and enhance the social, economic and environmental benefits that trees and woodland already provide in Falkirk.

3.22 Priorities for woodland expansion include:

EM 1.1	Support the delivery of approximately 850ha of new woodlands over the 40-year lifespan of the Strategy.
EM 1.2	Promote a strong multi-benefit approach to woodland planning, design and management in Falkirk.
EM 1.3	Ensure that proposals for woodland creation support the aims and objectives of the Falkirk Forestry and Woodland Strategy.

Figure 3.1 Indicative potential for woodland expansion



Promote improved management of Falkirk's woodland resource

3.23 In addition to delivering additional woodland across the Falkirk area, ensuring that existing resources are appropriately managed is a key priority. While much of the region's woodland is already well-managed, with long-term forest plans and land management plans in place to guide future decisions on many sites, bringing undermanaged resources into positive stewardship could help to unlock significant economic, social and environmental value.

3.24 In many of the region's older softwood forests, restructuring and restocking is already underway – helping to ensure that future rotations will deliver better quality timber, improved economic value and make a stronger contribution to the conservation of landscape, natural and cultural heritage values. Similarly, designing in provisions for access and recreation can help improve community use of woodland resources, contributing to improved health and well-being.

3.25 Bringing under-managed resources, particularly in urban fringe environments, into positive management has been a particular success in Falkirk, delivered through the Forestry Commission Scotland's 'Woods In and Around Towns' programme, the Falkirk Greenspace Initiative and the Central Scotland Green Network Trust (formerly the Central Scotland Forest Trust). However, ensuring that these successes continue to be recognised and built on will remain a priority.

3.26 Woodland management will be a key source of material to help promote the growth of local biomass markets, helping to provide an income to fund improved management activities and helping to make the case for investment in under-performing woodland assets.

3.27 The Forestry Grant Scheme 2014-2020, particularly the Woodland Improvement Grant (WIG), encourages an increase in the sustainable management of existing woodlands for example, by providing grant support for Low Impact Silvicultural Systems, restructuring of even aged woodlands, natural regeneration of woodlands, and improving public access and management of urban woodlands (through WIAT).

3.28 Management priorities include:

EM 2.1	Promote restructuring of existing softwood forests to contribute to improved economic, social and environmental values.
EM 2.2	Continue to promote opportunities to bring woodlands into positive management, prioritising assets close to where people live and where they can make an enhanced contribution to the character, quality and attractiveness of new and existing places.
EM 2.3	Highlight the potential economic returns of improved woodland management as a means of driving investment in existing resources.
EM 2.4	Promote the adoption of Lower Impact Silvicultural Systems / Continuous Cover management approaches on suitable sites to help improve climate resilience, stand dynamics, timber values and contribution to landscape and biodiversity values.

Promote high standards of woodland design in new and existing woodlands

3.29 As noted above, the process of restructuring and restocking the region's existing softwood forests creates a major opportunity to improve the design of these resources – enhancing their contribution to landscape character, habitat networks, public access and recreation and natural and cultural heritage values. The production of long-term forest plans and land management plans can help land managers develop more effective – and successful – approaches to optimising the value delivered by their assets, as well as making an enhanced contribution to wider social and environmental benefits.

3.30 In establishing new woodland, a range of tools and techniques are available to help optimise their planning and design. These can help ensure that woodlands function effectively as both assets (e.g. so that they can be planted, thinned and harvested easily and with minimal disruption) and as part of the wider ecosystem and delivering multiple benefits. The UK Forestry Standard sets the standards and requirements for new woodland, and its associated Guidelines provide key advice on ensuring new woodlands are designed to make a positive social and environmental contribution.

3.31 Priorities for woodland design include:

EM 3.1	Ensuring that proposals for woodland creation are designed to optimise the delivery of multiple benefits and make a positive contribution to local landscapes.
EM 3.2	Encourage land managers and their Agents to engage and consult widely in the development and delivery of forest plans and planting proposals.
EM 3.3	Highlight the importance of good design in helping to unlock the potential for woodland expansion in areas of more sensitive landscape.

Contribute towards the delivery of 10,000ha of woodland expansion per year nationally to help Scotland fulfil its ambitious CO_2 reduction commitments

3.32 Woodland and trees have an important role to play in meeting Scotland's international climate change commitments. Their ability to absorb and store CO_2 from the atmosphere – known as carbon sequestration – provides a key means of reducing our net emissions, in parallel with wider carbon reduction mechanisms[27].

3.33 All growing trees absorb CO_2 therefore all woodland contributes to the national carbon budget. Similarly, organic forest soils retain significant quantities of carbon, therefore reducing the impact of management operations on this resource can have significant benefits in carbon terms.

3.34 Since 2013[28] all companies listed on the stock market have been legally required to measure and report their Greenhouse Gas (GHG) emissions. All other companies are encouraged to do so voluntarily. Although companies are first required to avoid and reduce their emissions as far as possible, for example through improved efficiency or changes in processes, establishing new woodlands can be used as a means of reducing their net emissions. A number of businesses support companies in doing this, but quality assurance – provided through schemes such as the Woodland Carbon Code – is critical in ensuring companies can meet their reporting responsibilities and ensure that woodland is established and managed in an effective and responsible manner.

3.35 All woodland established primarily for carbon sequestration purposes will be required to meet the UK Forestry Standard – and should therefore deliver multiple benefits. The aspiration to expand Falkirk's woodland by around 850ha over the lifespan of the Strategy will ensure that Falkirk makes a sustainable and long-term contribution to meeting the national target.

[27] Scottish Government (2013) *Low Carbon Scotland: Meeting the emissions reduction targets 2013-2027 – the second report on proposals and policies.*
[28] Companies Act 2006 (Strategic Report and Directors' Report) Regulations 2013

3.36 Priorities include:

EM 4.1	Ensuring that the carbon sequestration potential of woodland in Falkirk is optimised through high quality design and management.
EM 4.2	Ensuring that woodlands established principally for carbon sequestration meet the requirements of UKFS, and contribute to the objectives of the Falkirk Forestry and Woodland Strategy.
EM 4.3	Promoting the value of Woodland Carbon Code accreditation for land managers seeking to participate in carbon sequestration projects.
EM 4.4	Collecting data and monitoring the contribution of woodlands in Falkirk to Scotland's emissions reduction targets.

Additional climate change-related priorities are set out in Chapter 4.

Woodland types

3.37 The Scottish Government's aspirations for woodland expansion cannot be achieved by concentrating on a single woodland type or strategic objective. Similarly, achieving the right mix of woodland requires guidance on where each type is most appropriate and can add most value.

3.38 As previously noted, managing our existing woodland resource is a key priority of the Strategy – therefore spatial guidance is provided for both management and expansion of key woodland types in Chapter 8 of the Strategy. This is intended to develop a woodland resource that is diverse, resilient to the challenges of climate change and makes a positive contribution to the economy; securing environmental quality and helping communities achieve their potential.

3.39 This section sets out strategic guidance for the following woodland types:

- forests to provide a source of **softwood** timber;
- woodlands for biomass **energy**;
- **mixed** woodlands, such as farm woodlands and shelterbelts;
- **native** woodlands contributing to habitat networks; and,
- **urban woodlands** contributing to strategic development and regeneration objectives.

3.40 These maps are indicative and are intended to provide a starting point to inform the development and evaluation of more detailed woodland management and creation proposals. It is likely that there will be opportunities for each type of woodland outside the areas identified on these maps. Some areas are likely to be suitable for more than one woodland type, and some woodland may fall within more than one category.

Softwood forests

Managing the existing resource

3.41 The majority of the area's existing softwood forests are concentrated on the Lowland Plateau to the south of Falkirk, with significant outliers in the Kilsyth Hills, at Torwood and in former policies at Callendar Park and Kinneil.

3.42 Ongoing restructuring and restocking of existing woodlands creates a major opportunity, through the Forest / Land Management Plan process, to deliver benefits ranging from improved second rotation timber quality and enhanced public access, to habitat networks and improved landscape values.

3.43 Continued investment in quality restocking – especially maximising the opportunities for 'whitewood' species – supported by excellent ongoing silvicultural practice, will ensure Falkirk's softwood forests continue to produce high volumes of quality in demand sawlogs and small roundwood to meet the requirements of the timber processing industry.

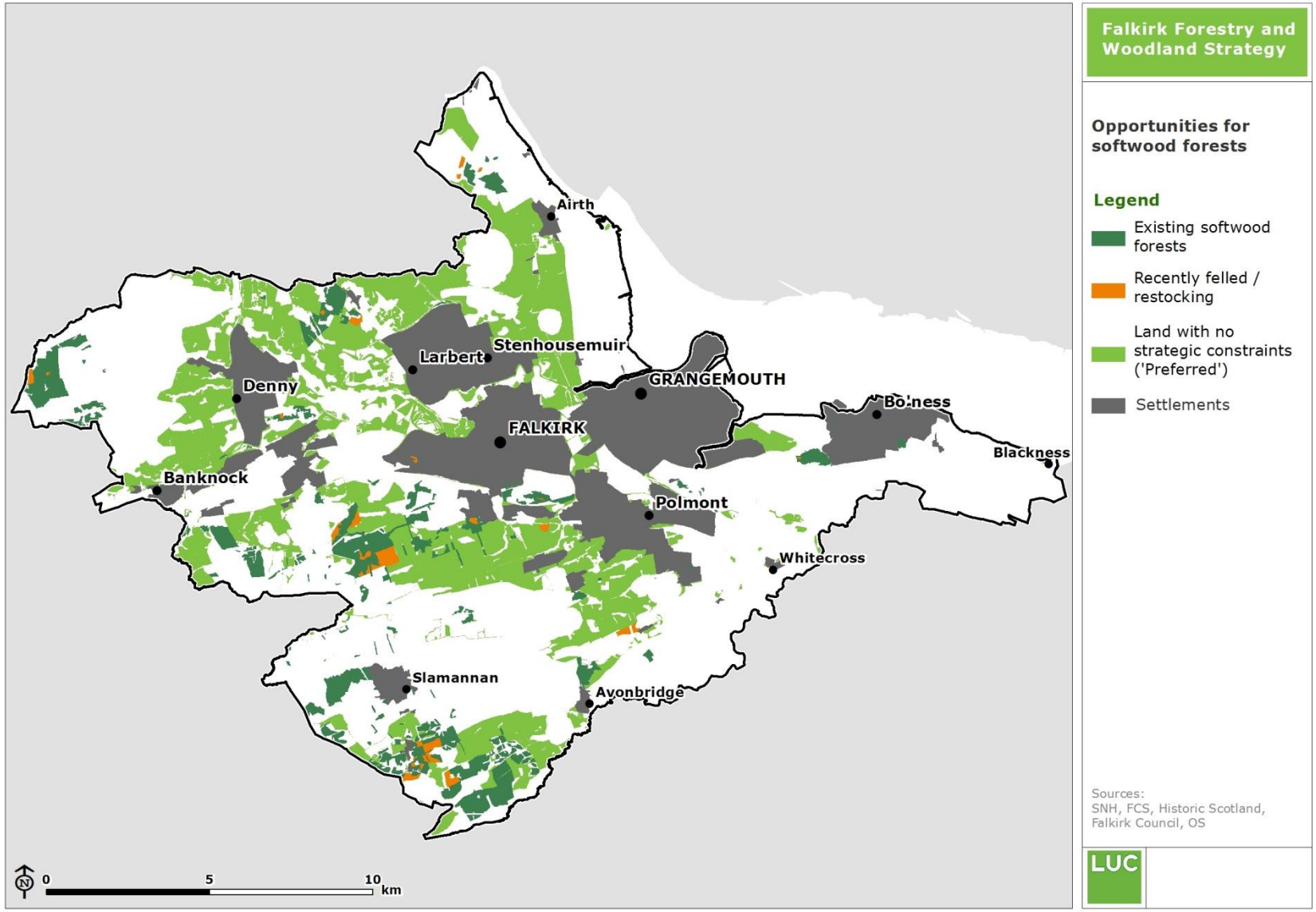
3.44 Falkirk's one major sawmill (James Callander & Son, at Abbotshaugh) processes wood from across Scotland, with local material comprising a very small proportion of throughput. However, proximity to this ready market, with minimal haulage distances and good quality transport links, means that locally produced timber can be highly competitive and achieve good returns on investment.

Potential for expansion

3.45 With an excellent climate for growing softwoods, especially 'whitewood', there is potential for well-planned new and expanded conifer woodlands in Falkirk. However, high standards of design will be necessary to ensure that landscape values and natural heritage issues are appropriately addressed. It is likely that the most suitable sites will be located on the Lowland Plateau and Lowland Hill Fringes, particularly in areas where planting can make use of existing landscape structure and avoid sensitive peat soils.

3.46 Current production forecasts indicate that there is a significant shortfall in domestically-produced timber beyond 2040. Investing in new productive woodlands can make an important contribution in securing supply to Scotland – and Falkirk's – processing industries in the longer term.

Figure 3.2 Opportunities for softwood forests



Energy forests

Managing the existing resource

3.47 Much of the region's woodland has some potential to contribute to growing the biomass sector. In addition to providing a fuel resource, this could make a substantial contribution to the health of native woodland ecosystems by providing income to secure positive management, improving the appearance and value of under-managed woods close to towns and villages, and providing revenue from a currently underperforming resource.

3.48 Developing robust supply chains is the key to ensuring long-term sustainability of the local biomass sector. Existing biomass producers and users – such as the Callendar Estate – already source significant quantities of material from local woodlands. Building on smaller-scale, often estate-based, enterprises a range of woodland could be brought into positive management using biomass to secure a return from currently uneconomic woodland.

3.49 The management of existing woodlands for biomass production should seek not to have an adverse impact on heritage assets and their settings, through changing the character of the existing woodland.

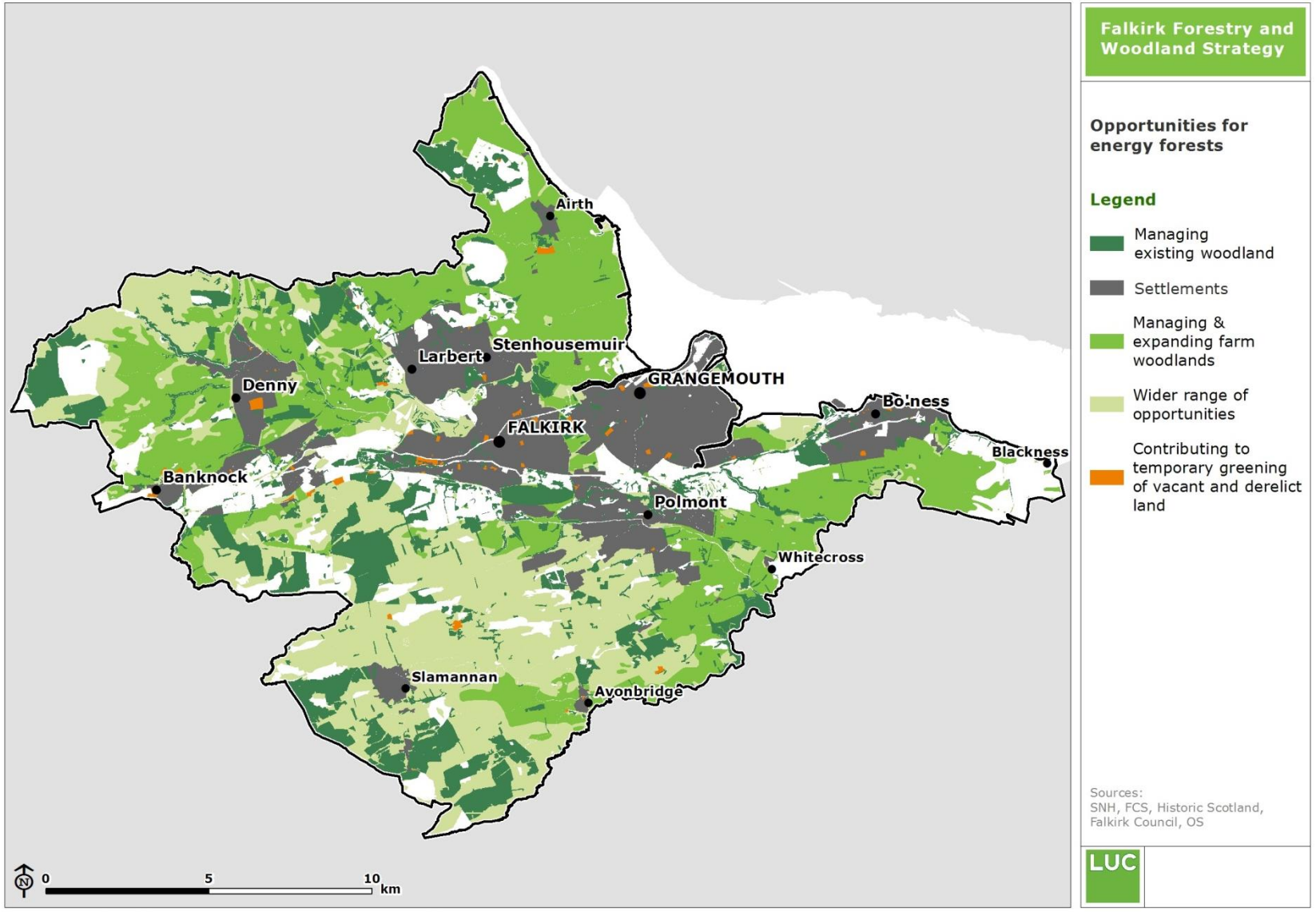
Potential for expansion

3.50 Current market trends suggest that it is unlikely that large-scale planting solely for biomass production will become a significant element of Falkirk's woodland resource. Therefore in areas of better quality land, the management and creation of multipurpose farm woodlands is likely to provide the bulk of new material in the longer term.

3.51 Close to settlement, the expansion and management of amenity woodlands will provide additional material through thinning and maintenance. Biomass could also make an important contribution to the management of community woodlands – providing an income to fund access and recreation enhancements and, potentially, a source of fuel for community ventures.

3.52 Short Rotation Forestry can offer opportunities for multi-land-use, and developments such as wind farms (depending on their design, location and machinery specifications) can offer the opportunity to deliver this at scale. In urban areas, vacant and derelict land – and even stalled development sites or long-term safeguarded sites – could provide an attractive location for new woodland, especially Short Rotation Forestry, with a biomass focus.

Figure 3.3 Opportunities for energy forests



Mixed woodlands

Managing the existing resource

3.53 Falkirk has comparatively little mixed woodland, with the majority of the resource concentrated in former designed landscapes – such as the grounds of the Forth Valley Royal Hospital and Dunmore Park – and in planting connected principally with transport corridors[29]. Amenity planting delivered through the extensive environmental enhancement projects in Falkirk over the past two decades has added to the mixed woodland resource.

3.54 For designed landscapes, 'succession planning' for specimen trees – particularly those in key landscape features such as avenues – is vital to ensure that character and significance are maintained. The effects of climate change should also be taken into account in the selection of species and provenance, helping to design in resilience.

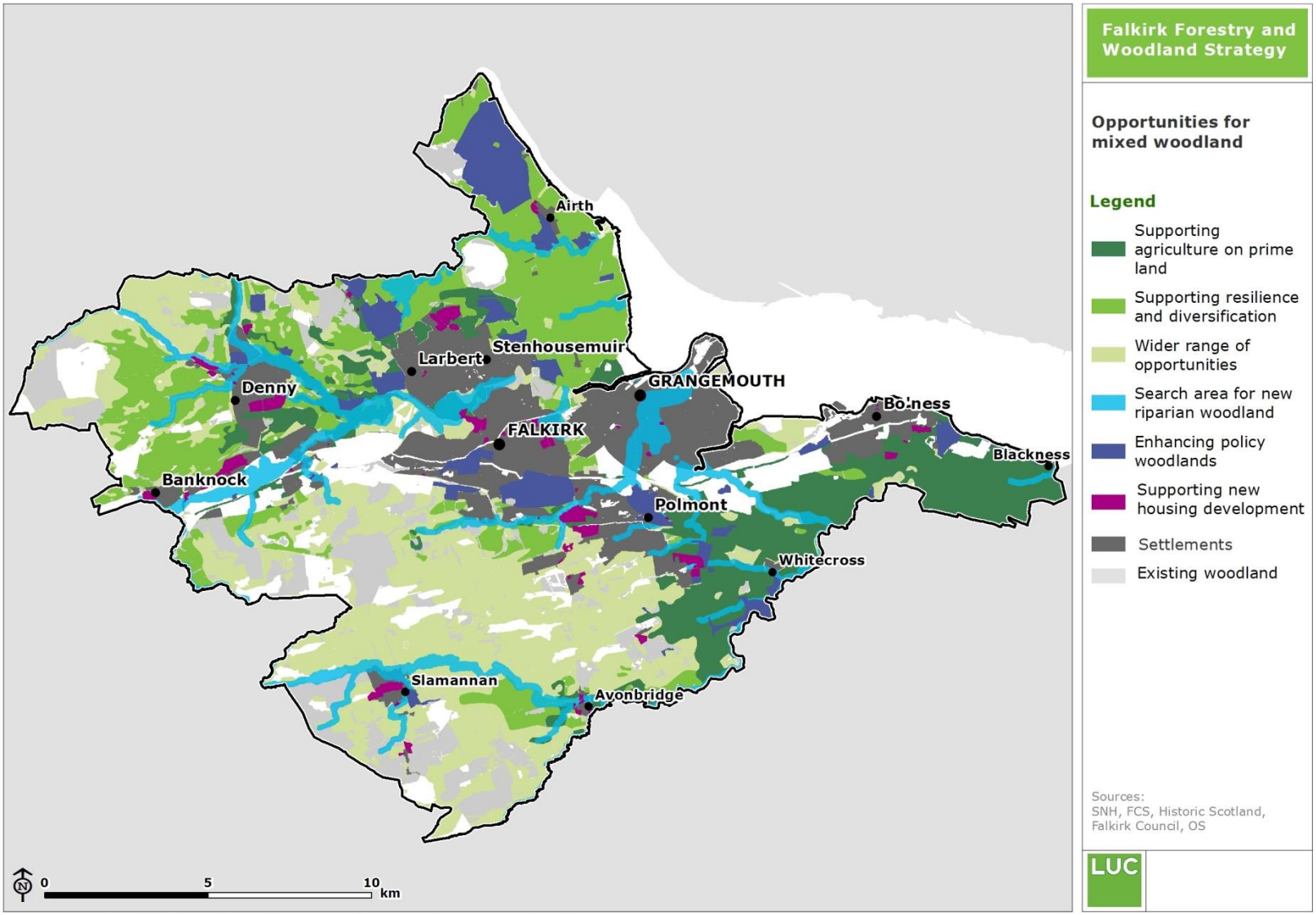
Potential for expansion

3.55 Agricultural areas provide the focus of the majority of activity for new mixed woodlands. However, rates of woodland creation have historically been low in such areas. Farming practices and rural support will evolve significantly over the coming decades – and opportunities exist for farm forestry to support this change.

3.56 Land capability and values are likely to change as a result of climate change, potentially affecting the economic case for farm forestry. Similarly, changes in rural support mechanisms have reduced the incentives for pastoral intensification. Highlighting the role of trees and woodland in meeting the challenge of adapting to climate change could help to boost uptake. Increasing planting in river corridors can help to mitigate the effects of floodwaters. Again, understanding how woodland and forests relate to the decisions of different land managers will be critical in developing incentives, information and support to help achieve this kind of expansion. In areas of high quality land under arable agriculture, for example to the south and east of Bo'ness, protecting the integrity of the soil resource by preventing wind and water erosion should be the priority. New planting of farm woodlands and shelterbelts could also help to restore lost or degraded boundaries and help to maintain character, particularly around designed landscapes and in the South Bo'ness Special Landscape Area.

[29] It should be noted that much of the amenity planting undertaken in recent years is recorded only a 'Young Trees' in the National Forest Inventory, with no further classification. It is likely that there is a mixed element to this, for example at the Helix, which is not currently visible in the statistics.

Figure 3.4 Opportunities for mixed woodland



Native woodlands

Managing the existing resource

3.57 Falkirk has a far greater proportion of native broadleaved woodland than virtually any other area of Central Scotland. In part, this is due to the presence of significant riparian networks and a legacy of large designed landscapes with a high proportion of native woodland – but also is a direct consequence of two decades of intensive environmental enhancement, with new woodland and improved management as a key element. Consequently, most local authority-owned woodland is already in positive management and plans in progress to address remaining gaps.

3.58 This has created a resource that is generally performing well and delivering multiple benefits. However, despite the existence of good quality networks of woodland, there are still issues with fragmentation and the need to bolster climate resilience that highlight the case for further expansion.

3.59 The Forestry Grant Scheme 2014-2020, particularly the Sustainable Management of Forests (SMF) Native Woodlands grant, should be utilised to its full potential to help maintain Falkirk's native woodland, and to bring native woodlands and designate woodland features in the area back into good ecological condition.

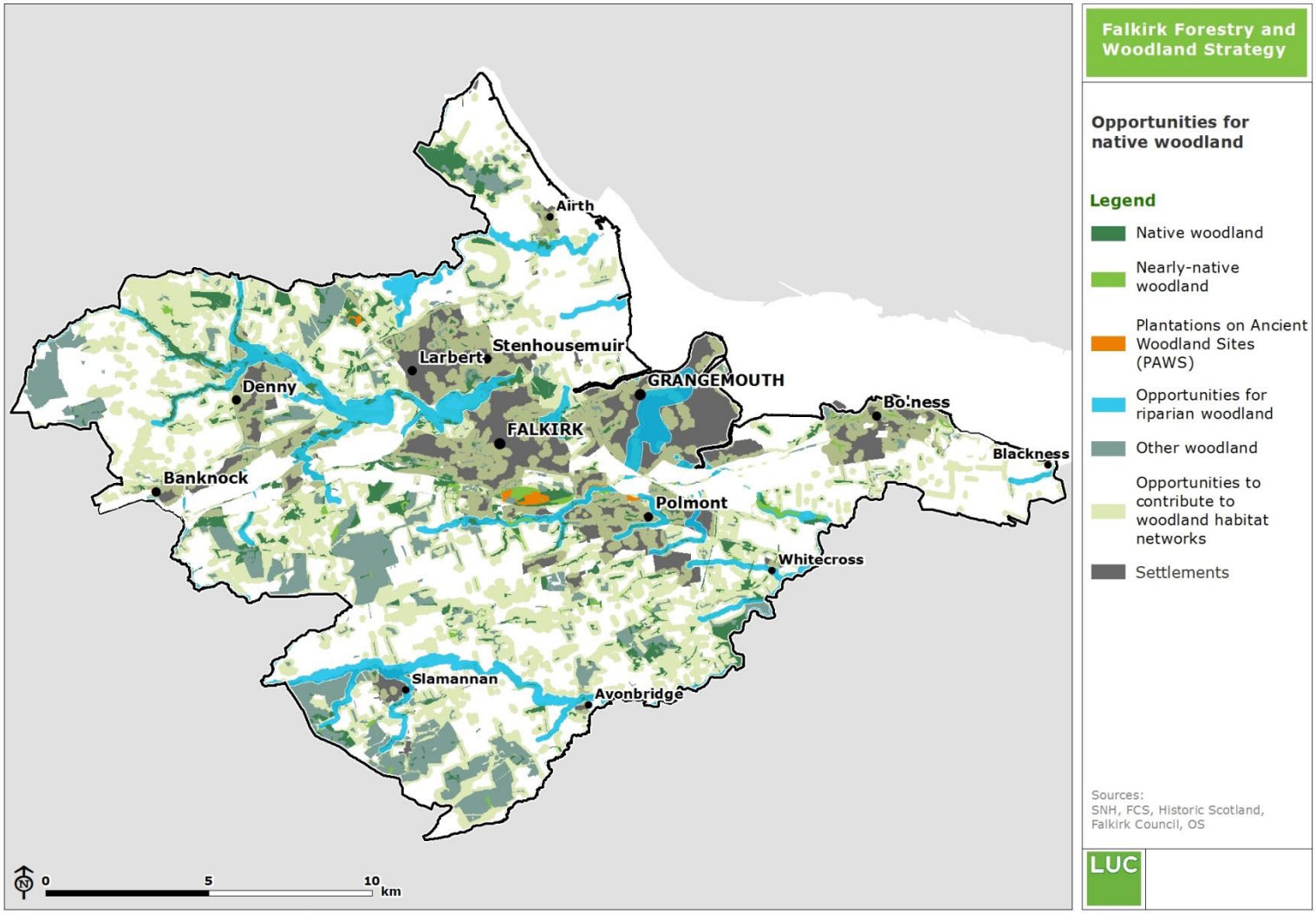
Potential for expansion

3.60 While the central portion of Falkirk benefits from robust native woodland networks, mainly orientated east-west through the Carron Valley and through central Falkirk, there is comparatively poor north-south connectivity and significant fragmentation.

3.61 Targeting the Lowland Plateau for appropriate native woodland expansion, generally as part of farm woodland, may add substantial value. Helping to connect the Avon Valley woodlands with new native resources in restructured woodlands and expanded and enhanced farm woodlands could make a significant contribution to connectivity, climate resilience and restoring degraded landscape structure. This could also be a valuable intervention south of Bo'ness, where making links between the Avon Valley and woods in and around the town could substantially improve connectivity and safeguard an area of important historic landscape character. However, the setting of the Antonine Wall is a key consideration between Kinneil and the River Avon, therefore planting proposals must be carefully designed to avoid adverse effects on the Outstanding Universal Value of the World Heritage Site. Extending the benefits of The Helix northward to connect with woodlands on the Carse and the fringes of Letham Moss could also add value.

3.62 While the major riparian corridors provide relatively large blocks of habitat with the potential to support populations of key species, much of the resource is composed of small woods under 3ha – creating potential issues in terms of resilience to climate change. This makes the surviving native woodlands all the more important, and management efforts must focus on securing the protection and enhancement of these assets. Although efforts to improve connectivity are undoubtedly important in securing a wider range of benefits, the 'core' woodland sites must not be neglected as a result.

Figure 3.5 Opportunities for native woodland



Urban woodlands

Managing the existing resource

3.63 Despite being relatively heavily developed, Falkirk's urban area contains 11% of the Council area's woodland (9% of the urban area is wooded) highlighting the value and success of both historical approaches to tree and woodland retention and the success of recent environmental enhancement programmes. Consequently, most of the urban woodlands in local authority control are already actively managed. The priority is therefore maintaining this investment, identifying and prioritising other under-managed woodlands and continuing to work with all stakeholders to unlock their value.

3.64 The Woods In and Around Towns (WIAT) funding, delivered through the Woodland Improvement Grant (WIG) and the Sustainable Management of Forests (SMF) funds of the SRDP 2014-2020, should be utilised to its full potential to help deliver these outcomes.

Potential for expansion

3.65 While the spatial analyses undertaken for this Strategy are not intended to identify individual sites for planting, there is clearly significant potential within Falkirk's settlements to accommodate enhanced networks of trees and woodlands.

3.66 Activity could focus on converting under-used or problematic amenity grassland, to contribute to local character and habitat networks, enhancing the setting of new and existing development and addressing issues with vacant and derelict land.

Figure 3.6 Opportunities for urban woodlands - Central

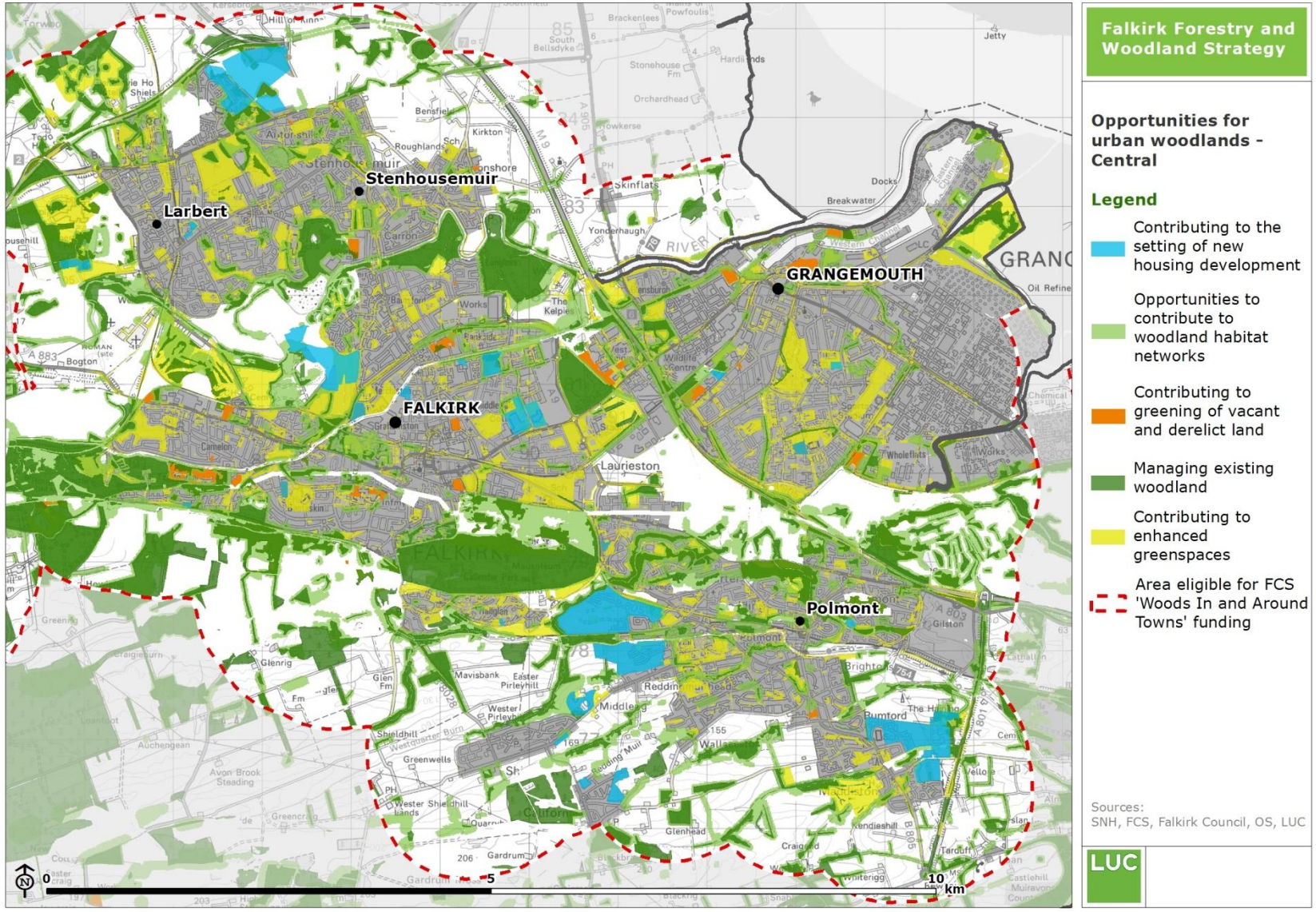


Figure 3.7 Opportunities for urban woodlands - East

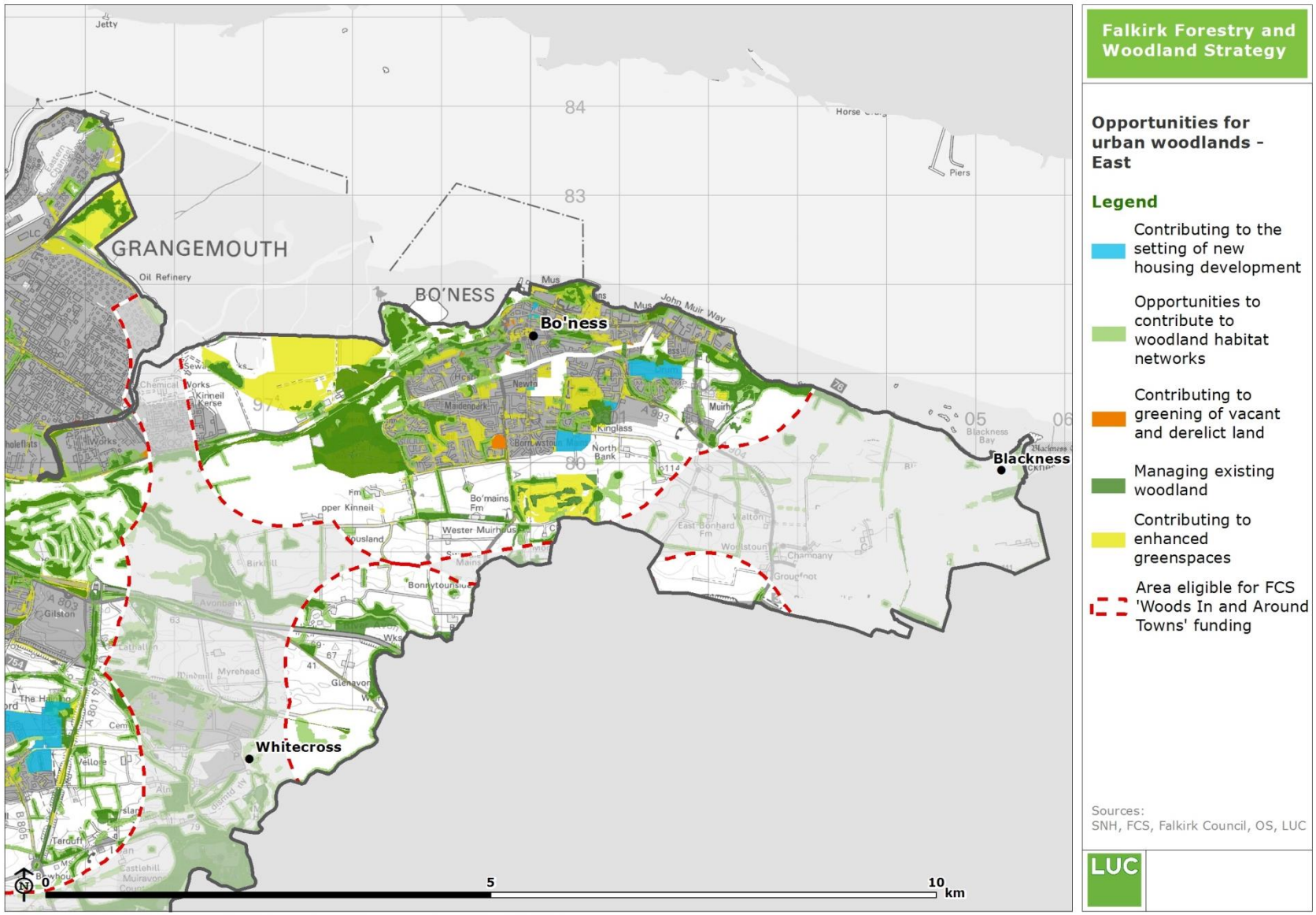
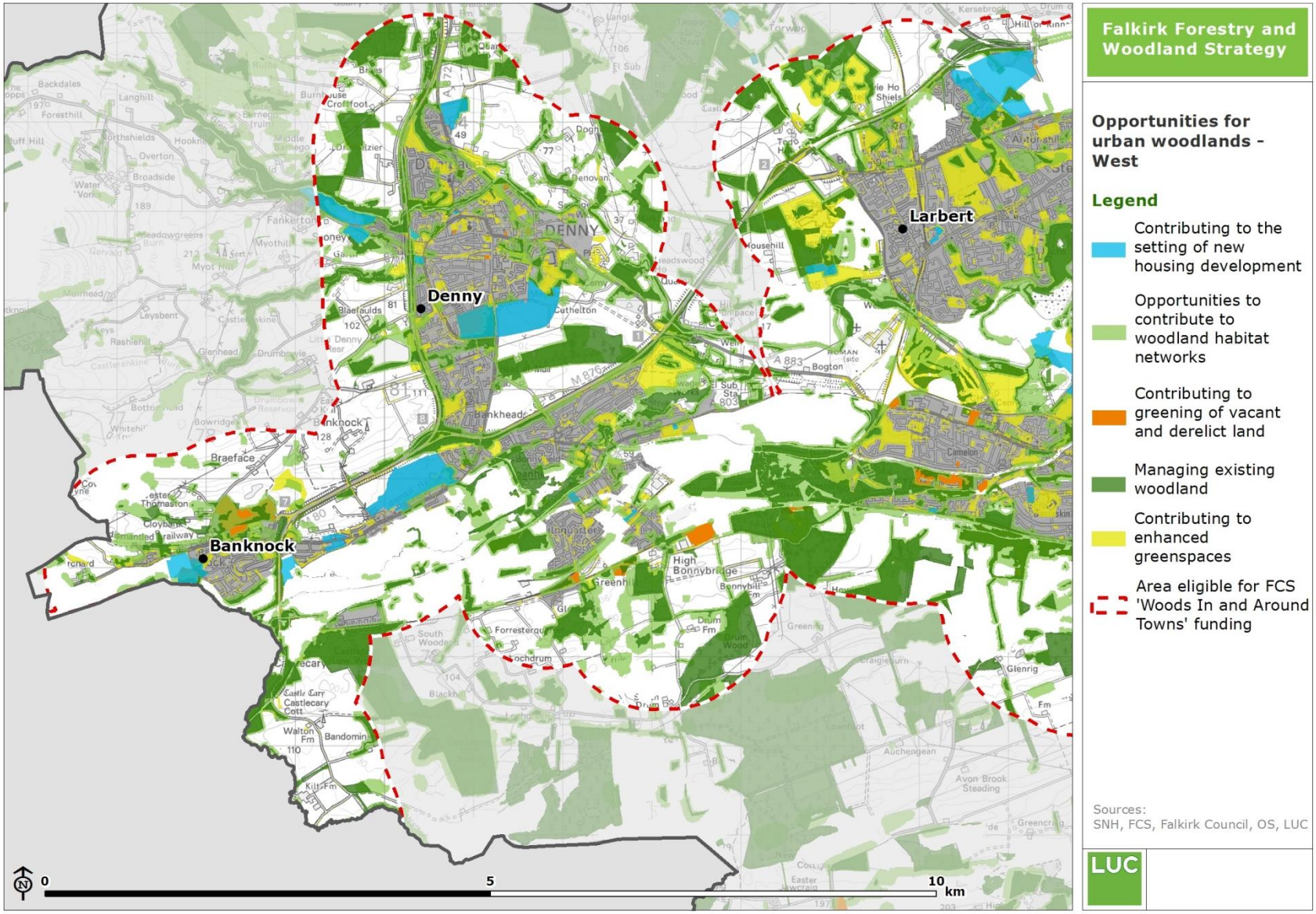


Figure 3.8 Opportunities for urban woodlands - West



4 Climate change

Introduction

4.1 Climate change is recognised as one of the key challenges facing us in the 21st century. Woodlands have a key role to play in helping to achieve reductions in greenhouse gas (GHG) emissions. They can also help us adapt and become more resilient to the climate changes that are projected to occur over the coming decades.

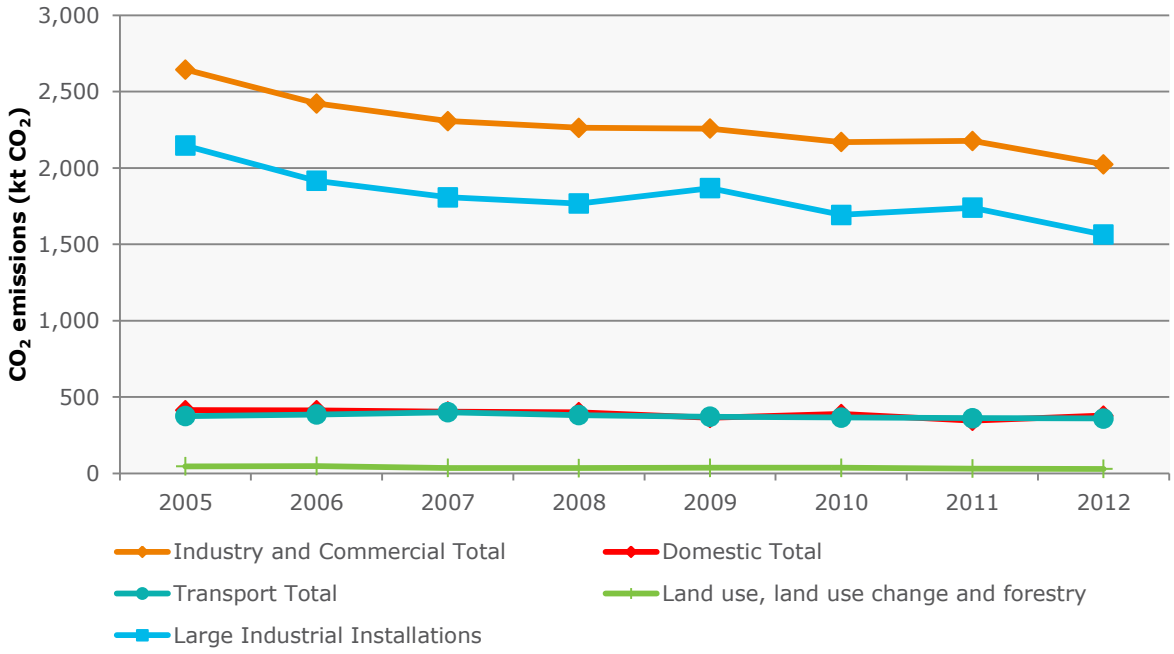


Diagram 4.1 Falkirk's carbon emissions by sector, 2005-2012 (DECC data)

4.2 As Diagram 4.1 illustrates, Falkirk's forestry and land use sector accounts for a very small proportion of total emissions, particularly compared to the effect of the area's major industrial installations. When all sources are taken into account, Falkirk has the highest per capita and fourth highest total emissions of all Scotland's local authorities[30]. Therefore, any contribution that new woodland can make to reducing overall emissions is potentially valuable.

4.3 Scotland-wide, land use and forestry is a major net absorber of carbon emissions, taking almost 5,500kt CO_2 out of the atmosphere in 2012. This highlights the importance of the sector in significantly reducing overall emissions – but also reinforces the need to ensure that decisions continue to prevent avoidable emissions from land use change and prioritise efficient and effective operation.

Contribute to emissions reduction

Reduce the forestry sector's impact

4.4 The forestry and timber industries and land-based industries in general, are very heavy users of fossil fuels, used to power machinery and haulage vehicles. Although this is a relatively small

[30] 2,732.7kt CO_2 in total and 17.8t CO_2 per person for 2012 (DECC).

component of Falkirk's economy and emission profile, acknowledging and addressing this reliance on high-carbon energy will be of particular importance in improving the overall sustainability of the industry and helping ensure that it is resilient over the coming decades, where fuel is likely to be both more expensive and potentially in short supply.

4.5 Across Scotland, the processing sector has long embraced the potential for waste wood and sawdust to be used in the generation of renewable energy, both for on-site heat and power requirements and for sale to the grid. Falkirk's single large sawmill, James Callander & Son, at Abbotshaugh, makes use of co-products for kiln-drying timber.

4.6 Priorities to reduce carbon emissions from the sector include:

CC 1.1	Support the development of energy-efficiency measures in Falkirk's forestry and timber sectors.
CC 1.2	Continue to promote the adoption of wood co-products as sources of on-site and grid heat and power for timber processors and allied industries.
CC 1.3	Promote the use and adoption of fuel-efficient plant and machinery, making links between suppliers, existing users and local contractors to highlight the benefits.
	Priorities in relation to expanding markets for timber and biomass are covered in the Economy section of the Strategy.

Contribute to national targets

4.7 The Climate Change (Scotland) Act 2009 set greenhouse gas emission reduction targets of 42% by 2020 and 80% by 2050. Falkirk currently emits around 2,800 kilotonnes of carbon dioxide per annum[31], representing just less than 8% of the Scottish total.

4.8 Increasing the amount of carbon sequestered by woodland is a national priority, set out in the Scottish Government's Rationale for Woodland Expansion. However, planting new woodland for carbon capture alone is neither national policy, nor sound environmental stewardship. Delivering multiple benefits must be the priority for all new woodland creation – but there are approaches that can be adopted to optimise the benefits in terms of carbon management. Where suitable, 'lower impact silvicultural systems' / 'continuous cover forestry' approaches to managing woodlands for timber production mimic the stand dynamics and characteristics of natural woodland, helping to retain more carbon than traditional clear-fell systems. Projected increases in storminess over coming decades may also make the improved wind-resistant characteristics of CCF woodlands more attractive to land managers.

4.9 In an area such as Falkirk, where such a significant proportion of woodlands are either semi-natural or planted principally for amenity uses (rather than timber production), long-term retention of carbon is a key feature. Therefore, ongoing management is particularly important in securing these benefits over the longer term.

4.10 Protecting the carbon resource is a national priority, expressed in the Scottish Government's Policy on the Control of Woodland Removal which introduces a formal, cross-cutting presumption in favour of woodland retention; sets the policy tests against which proposals are measured; and highlights the need for appropriate compensatory planting.

4.11 While woodlands lock up a substantial amount of carbon (approximately 910 million tonnes), Scotland's peatlands are our most significant carbon store – holding an estimated 1,600million tonnes of carbon[32]. Therefore protecting and, where possible, restoring this resource is of

[31] DECC Local authority carbon dioxide emissions statistics https://www.gov.uk/government/publications/local-authority-emissions-estimates

[32] Figures from Scottish Government, 2009. *Low Carbon Scotland: Meeting the emissions reduction targets 2010-2022 – Report on the proposals and policies.* Edinburgh: Scottish Government.
A conservative estimate of the carbon stored in Scotland's woodlands is approximately 910million tonnes of carbon (based on an average of 700t/C per hectare) – although forest soils will also store a significant amount of carbon, in some cases more than in the trees themselves.

strategic national importance[33]. Unfortunately, much of the relict peatland in Falkirk has suffered significant damage through industrial extraction for horticulture, most notably at Dunmore, Letham and Gardrum Mosses. Given the quantity of material extracted and the extent of historical drainage operations, the opportunities for restoration on these sites are likely to be limited. This highlights the importance of conserving the area's remaining peat resources and ensuring that new planting avoids sensitive locations.

The **UK Forestry Standard** requires the avoidance of peat soils over 50cm in depth, and on sites that could compromise the hydrology of adjacent bog habitats, when establishing new woodlands. Site-specific assessment of proposals is critical in determining peat depths on site, and whether woodland creation is appropriate.

Scotland's **National Peatland Plan** [currently in Consultation Draft form] sets out the priorities for conserving and responsibly managing our peat soils. Following the Ramsar Convention and Soil Survey of Scotland definitions, it applies to soils with an organic layer or layers greater than 50cm deep from the soil surface, and contain more than 60% organic matter.

4.12 Priorities to contribute to national targets include:

CC 1.4	Ensure that reductions in woodland cover arising from restructuring and development are compensated within Falkirk wherever possible.
CC 1.5	Where woodland removal in connection with development is proposed, and meets the requirements of the Scottish Government Policy, work with developers to ensure that compensatory planting is delivered in line with the priorities and spatial guidance provided by this Strategy.
CC 1.6	Promote the carbon benefits of continuous cover forestry on suitable sites.
CC 1.7	Consider the potential for restoration of peatland habitat as part of forest restructuring proposals.

Encourage adaptation to the predicted effects of climate change.

4.13 While efforts to reduce our greenhouse gas emissions are of international importance, unfortunately the pace and intensity of climate change is now such that a significant degree of change of the coming decades is now inevitable. Ensuring that communities, environmental assets and businesses are resilient to these changes is a critical challenge.

Adapt forestry practices

4.14 Woodland is vulnerable to the predicted effects of climate change in a number of separate, interacting ways. These include:

Effect type	Impacts on trees	Impacts on forestry practice
Weather		
Hotter, drier summers	Increased tree mortality for drought-prone / shallower-rooting species Failure or impaired establishment for new planting Stress increasing susceptibility to pathogens	Potential need for irrigation (although likely to be impractical) Need for drought-resistant species/provenance Increased wind erosion of exposed soils Need for increased resilience

[33] Reflected in Scottish Government policy, including the Land Use Strategy, and in the recent document *Low Carbon Scotland: Meeting our Emissions Reduction Targets 2013-2027*, Section 9.

Effect type	Impacts on trees	Impacts on forestry practice
	Increased incidence of forest fires	planning for fire
Warmer, wetter winters	Longer growing season Reduction in number of frost days Greater soil instability due to water-logging On wetter sites, waterlogging causing root damage Increased pathogen threat, due to more favourable conditions	Faster growth of timber, potentially affecting strength and end-use Potential reduction in frost damage Uncertainty making planning of operations more difficult; increased waterlogging reducing number of available working days Increased soil damage from machinery activity Increased importance of sediment management to prevent polluting run-off Increased need for good silviculture, including thinning, in order to reduce the likelihood and impact of pathogen attack
Increased storminess	More frequent, and more severe, wind-throw	Increased need for proactive management; identifying and removing potentially unstable trees Increased risk associated with woodland in exposed locations Adopting CCF and other approaches to improve wind-fastness Increased need for use of best practice approaches to silviculture, including well-planned in-crop drainage
Increased uncertainty		Long-term planning needs to reflect this uncertainty to manage risk Length of rotation and timing of thinning etc. for timber species may need to adapt
Pests and diseases		
Changes in range / distribution of insect pests (due to lessening of climatic controls)	Increased windthrow potentially increasing available deadwood habitat for beetle and weevil population build-up Additional stress factors increasing tree susceptibility to attack Increased potential for multiple pathogen attack (e.g. by bark beetles and defoliating caterpillars)	Potential need to adapt management approach and future woodland structure to reduce favourable conditions for pests Increased use of pesticides?
Weather-related changes in susceptibility to pathogen attack	Warmer, wetter winters improving conditions for fungal pathogens (e.g. red band needle blight) Higher summer temperatures and reduction in soil frosts increasing damage as a result of *Phytophthora* infection	
Reduced winter mortality for mammalian pests (particularly deer)	Increased browsing damage, particularly in young woodlands	Need for additional fencing / protection
Invasion by additional non-native pests and diseases		Planning, and close partnership working between agencies and the

Effect type	Impacts on trees	Impacts on forestry practice
		sector
Increased competition from ground and shrub layers in young woodland (e.g. rank brambles)	Difficulties in establishment, particularly in areas of natural regeneration	More active management of natural regeneration to ensure proper establishment

4.15 The effects of climate change are likely to necessitate a range of changes in the ways that woodlands are planned and managed to ensure that both the woods themselves and their attendant industries are resilient to change.

4.16 In Falkirk, there is little woodland that would be classed as being either highly exposed or located on particularly drought-prone soils[34], however approaches to management and species mix will need to evolve to meet the challenges posed by more frequent extreme weather and the increasing prevalence of pests and diseases. Uncertainty and managing risk is a key element of 'climate readiness'. In Falkirk, the high proportion of publicly-accessible and amenity woodlands means that local people and communities of interest may be well-placed to assist in identifying and reporting outbreaks of pest or disease activity.

4.17 Priorities include:

CC 2.1	Work with agencies, stakeholders and the industry to ensure that updates to research, advice and guidance is appropriately interpreted and disseminated to ensure that Falkirk's new and existing woodlands are 'climate-ready'.
CC 2.2	Encourage partnership working between agencies, the industry, user groups and communities to ensure that opportunities for 'citizen science' and reporting of tree health and pathogen activity are optimised.
CC 2.3	Promote the climate resilience benefits of continuous cover forestry on suitable sites. [Link to CC 1.6 / EM 2.4]

Contribute to sustainable water and flood management

4.18 Falkirk contains four 'Potentially Vulnerable Areas' identified by the National Flood Risk Assessment, covering the majority of the local authority area. While much of this risk arises from the threat of coastal flooding, which woodland can do little to address, there is substantial risk in inland areas from fluvial flooding in the Avon and Carron catchments.

4.19 Well-designed woodland can make a major contribution to attenuating flood events through a number of mechanisms including; direct absorption of rainfall through leaves and root systems; improved infiltration of water into soils; slowing flows of surface water and increasing catchment response times. This can also help to reduce peak flows, reducing the risk or severity of flooding and potentially reducing or offsetting the need for engineered flood defences.

4.20 Woodland expansion needs to be considered as part of the integrated management of river catchments, but could comprise a mix of softwood, mixed and native woodlands. Planting in the middle and upper catchment can have the greatest benefits in reducing flood flows.

4.21 In urban areas, trees and woodland can also play a key role in delivering sustainable water management in the form of Sustainable Urban Drainage Solutions (SuDS), a national policy requirement for surface water management in new development.

4.22 Priorities to encourage sustainable water and flood management include:

CC 2.4	Promote the potential contribution of woodland to sustainable flood management in Falkirk's *Potentially Vulnerable Areas.*

[34] Green, S. and Ray, D. (2009) 'Potential impacts of drought and disease on forestry in Scotland', Forest Research Research Note FCRN004, published online http://www.forestry.gov.uk/pdf/FCRN004.pdf/$FILE/FCRN004.pdf

CC 2.5	Work with partners and stakeholders to understand and explore the opportunities for woodland in catchment management.

Increase the resilience of Falkirk's woodlands

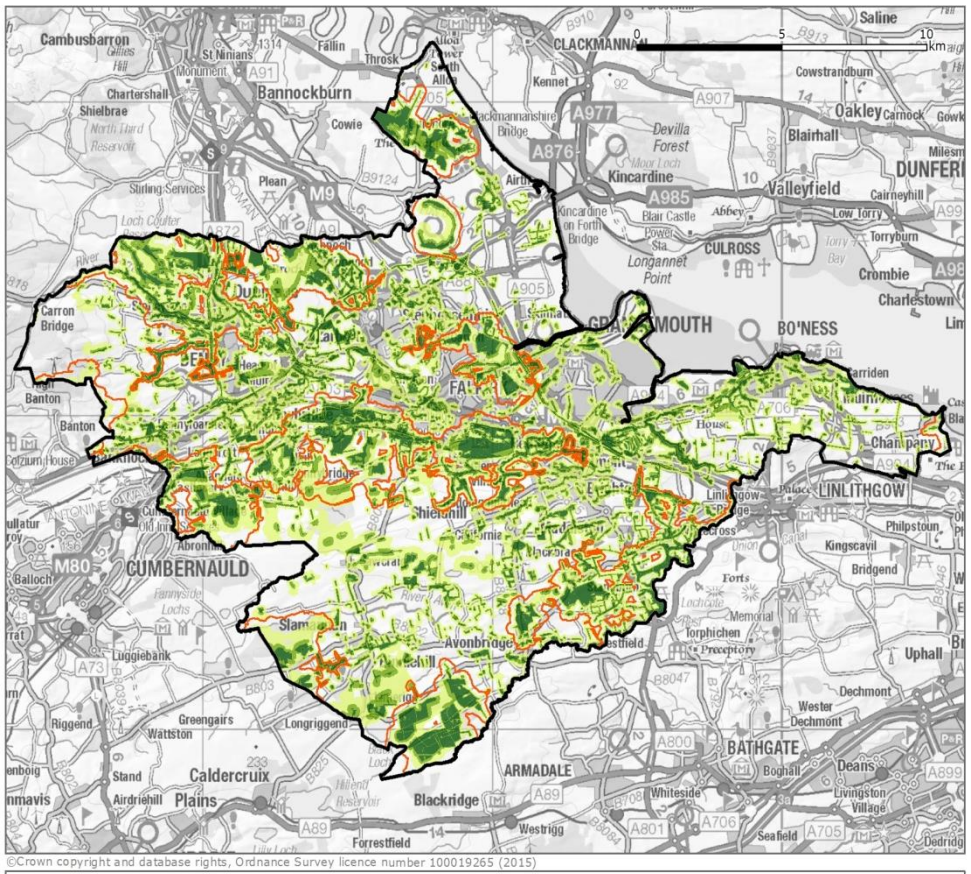
4.23 For many species, adapting to the effects of climate change requires space to alter their range or behaviour in response to changing temperature, weather or habitat distribution. In Falkirk, and Central Scotland more generally, developed and intensively-used land can represent a significant barrier to the movement and adaptation of species and habitats. Safeguarding and creating connectivity between areas of suitable habitats is therefore a national priority in assisting our natural heritage cope with the likely current and predicted effects of our changing climate. However, resilient networks alone will not be sufficient. Suitably large areas of habitat are required to support diverse breeding populations and assist the potentially large-scale movement of key species. Falkirk possesses large-scale and highly valued networks and core areas of native woodland habitat, ensuring that planning for future resilience is starting from a strong position. Well-planned woodland creation can play a key role in enhancing habitat connectivity, boosting resilience in core areas and forging new links where connections are currently lacking. SNH's 'Integrated Habitat Network' GIS datasets are a useful tool in identifying areas where new woodland can make a contribution to physical and functional connectivity (see Figure 4.1). Similarly, they are valuable in highlighting important non-woodland habitat types that also require support, assisting land managers and decision-makers identify and develop optimal uses.

4.24 Trees and woodland are an important aspect of Falkirk's cultural as well as its natural heritage. Historic gardens, designed landscapes and associated policy woodlands are a key structuring feature in the landscape. While some of these woodlands remain in estate ownership and management, others have been converted to golf courses or have been gradually subsumed within housing development. Whatever the current use, maintaining the health and resilience of woodlands and individual trees is critical in securing their contribution to sense of place, landscape character and their habitat and heritage values. This will require careful planning to ensure that, where possible, like-for-like replacements are used – particularly for specimen trees – or more climate-resilient replacements are selected. This is also true of trees and woodlands in urban areas, many of which feature non-native specimens. As these assets play an important role in managing local microclimates, ensuring they are resilient to change should be a priority in helping communities adapt to climate change effects.

4.25 Priorities include:

CC 2.6	Work with partners and land managers to highlight the importance and value of designing habitat connectivity into proposals for woodland expansion.
CC 2.7	Promote the use of Integrated Habitat Network data in parallel with this Strategy to inform land management decisions.
CC 2.8	Promote survey and succession planning for gardens, designed landscapes and policy woodland to maintain their heritage values and significance.
CC 2.9	Work with local authority colleagues to ensure that parks, open space and street trees are managed to ensure they are resilient to predicted changes.

Figure 4.1 Examples of Integrated Habitat Network data (Broadleaved woodland and wetland networks)



FALKIRK
Forestry & Woodland Strategy

Broadleaved Woodland Habitats and Networks

LEGEND

Study area

Integrated habitat network

Woodland habitat

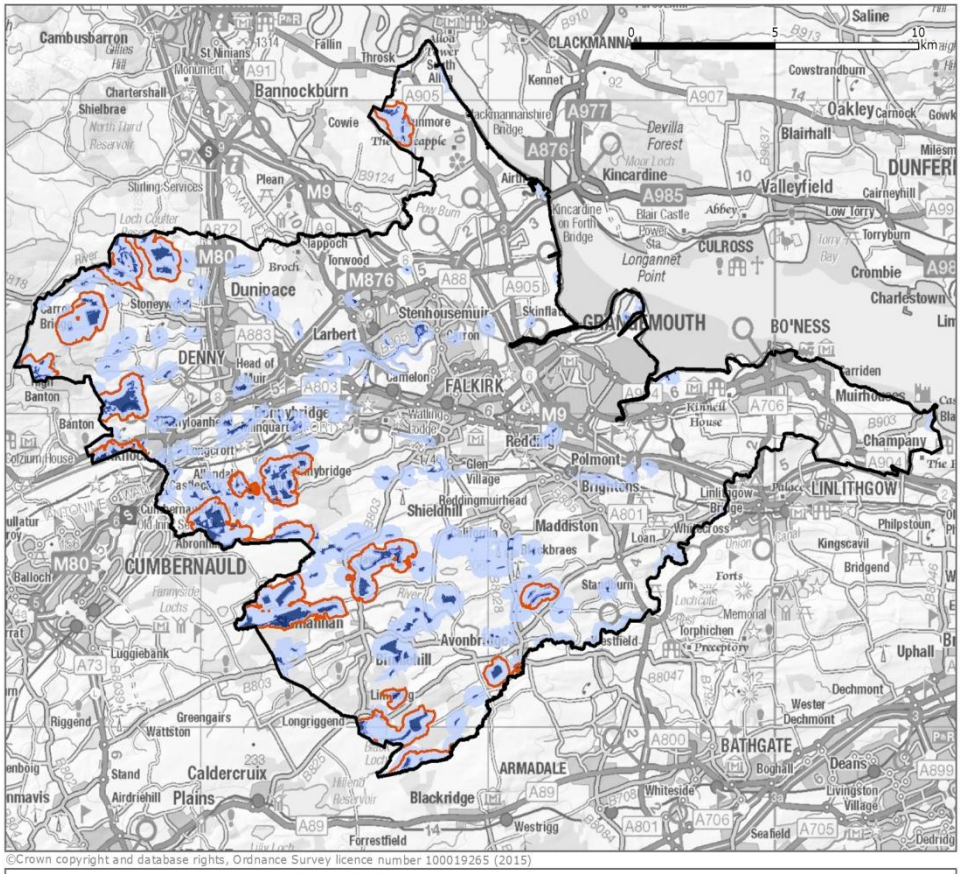
Moderate dispersal network

High dispersal network

Woodland hotspot

Source: SNH

LUC



FALKIRK
Forestry & Woodland Strategy

Wetland Habitats and Networks

LEGEND

Study area

Integrated habitat network

Wetland habitat

Moderate dispersal network

High dispersal network

Wetland hotspot

Source: SNH

LUC

5 Environment

5.1 Although the Falkirk local authority area is both comparatively small and heavily developed, it has a rich and distinctive natural and cultural heritage that makes an important contribution to local identity and sense of place. Easy access to high quality environmental assets is a key part of Falkirk's appeal to visitors and residents alike.

5.2 Ecosystem services – the benefits provided to people by the environment – underpin Falkirk's rural economy, support community and infrastructure resilience and facilitate leisure, recreation and cultural experiences. This Strategy advocates taking a holistic approach to understanding, conserving and enhancing these processes and their value to people, the environment and the economy.

5.3 This part of the Strategy aims to conserve and enhance Falkirk's natural and cultural heritage under the following objectives:

- Improve the condition and resilience of biodiversity.
- Improve woodland' contribution to the conservation and management of ecosystem services and functions.
- Contribute to the conservation, enhancement and understanding of Falkirk's valued natural heritage and historic environment.

Improve the condition and resilience of biodiversity

Enhance woodland habitats

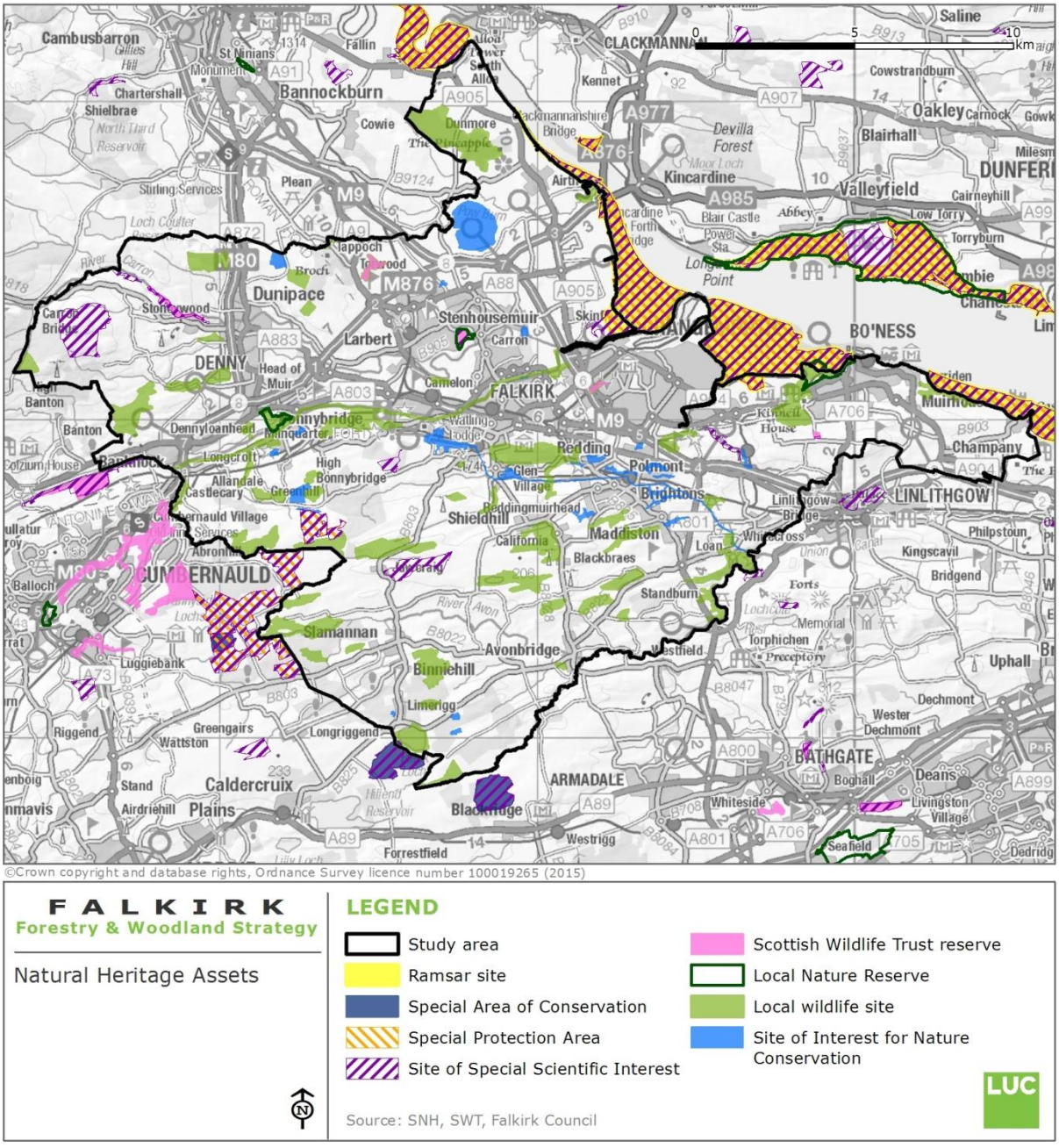
5.4 Comprising around a third of total woodland cover, Falkirk's native woodlands are a key component of the area's biodiversity value. The resource is concentrated in a number of large-scale woods and riparian corridors, including the Avon Gorge and Carron Glen SSSIs. Across the area, levels of woodland habitat connectivity are reasonable in comparison to other parts of Central Scotland, due in part to recent environmental enhancement initiatives and extant Improvement-era landscape structure. However, enhancing these connections will be an important means of improving the climate resilience of woodland species. Here, mixed and non-native conifer woodlands also have a contribution to make, providing physical and functional links, particularly where native networks are currently fragmented. The habitat value of such woodlands can be greatly improved by including native woodland corridors as part of long-term management plans and processes. Reinforcing existing and establishing new links between Falkirk's woodlands and those in neighbouring authorities is critical as neither species not the effects of climate change recognise administrative boundaries. With the exception of some Central Scotland Green Network Trust activity, much recent publicly-driven woodland creation has focussed on the urban areas of Falkirk. Therefore an important role for this Strategy is in promoting new woodland creation in the rural area. Ongoing collaboration and partnership working with neighbouring authorities and cross-boundary land owners will be valuable in delivering resilient networks.

5.5 The imperatives created by climate change highlight the importance of positive management of all woodlands to ensure that habitat values are optimised. Dealing effectively with the threat of non-native invasive species, particularly in vulnerable riparian corridors, will be a key action in securing long-term value. This may require strategic, coordinated intervention involving a number of land managers.

5.6 A small number of Plantations on Ancient Woodland Sites (PAWS) have been identified in Falkirk, some of which are likely to have potential for restoration in future rotations. Restoration work should prioritise those areas where relict features, flora or a viable seedbank survives, or where the woods could make a significant contribution to wider habitat networks.

5.7 The Woodland Improvement Grant (WIG) Habitats and Species grant should be utilised to its full potential to help encourage natural regeneration which will benefit priority habitats and species in Falkirk. In addition, the Sustainable Management of Forests (SMF) Native Woodlands grant should be utilised to restore PAWS to native woodland.

Figure 5.1 Designated natural heritage interests



5.8 Priorities to enhance woodland habitats include:

ENV 1.1	Promote woodland creation to build strategic habitat network links to between core areas.
ENV 1.2	Promote partnership working between land managers to ensure 'joined-up' management of linear woodlands.
ENV 1.3	Promote partnership working between managers to ensure coordinated delivery of efforts to tackle non-native invasive species.

ENV 1.4	Work with land and estate managers to highlight the potential value of PAWS sites and highlight the benefits of incremental restoration to native woodland.
ENV 1.5	Work with agency partners and neighbouring authorities to deliver opportunities for cross-boundary enhancement of woodland habitat networks.
ENV 1.6	Promote the potential opportunities for woodland habitats to contribute to the greening measures contained within the SRDP.
ENV 1.7	Promote the positive management and expansion of International and UK Biodiversity Action Plan priority woodland habitats, including semi-natural ancient woodlands.

Conserve non-woodland habitats

5.9 In addition to its woodland, Falkirk also contains a number of important non-woodland habitats that need to be considered in planning for woodland expansion and management. A number of designated peatlands, including both raised and blanket bog, are key features that can be adversely affected by poorly-planned tree planting.

5.10 Designated areas of high natural heritage value have been included in the 'sensitive' category in the detailed mapping and analysis accompanying this Strategy. However, it is important to ensure that site-specific assessments of woodland creation proposals give appropriate consideration to significant, but undesignated, habitats – such as the transition habitats between areas of wetland, grassland and woodland habitats.

5.11 Similarly, open ground habitats that support designated populations of key species – most notably the taiga bean goose population associated with the Slamannan Plateau Special Protection Area (SPA) – requires careful consideration with regard to the likely effects of land use change. Similarly, overwintering geese and waders forming part of the Firth of Forth SPA population also make use of arable land and grassland habitats along the Forth for foraging. While potentially less fragile overall, care should be taken in managing any large-scale land use change along the Forth to ensure that cumulative effects on available foraging areas is considered.

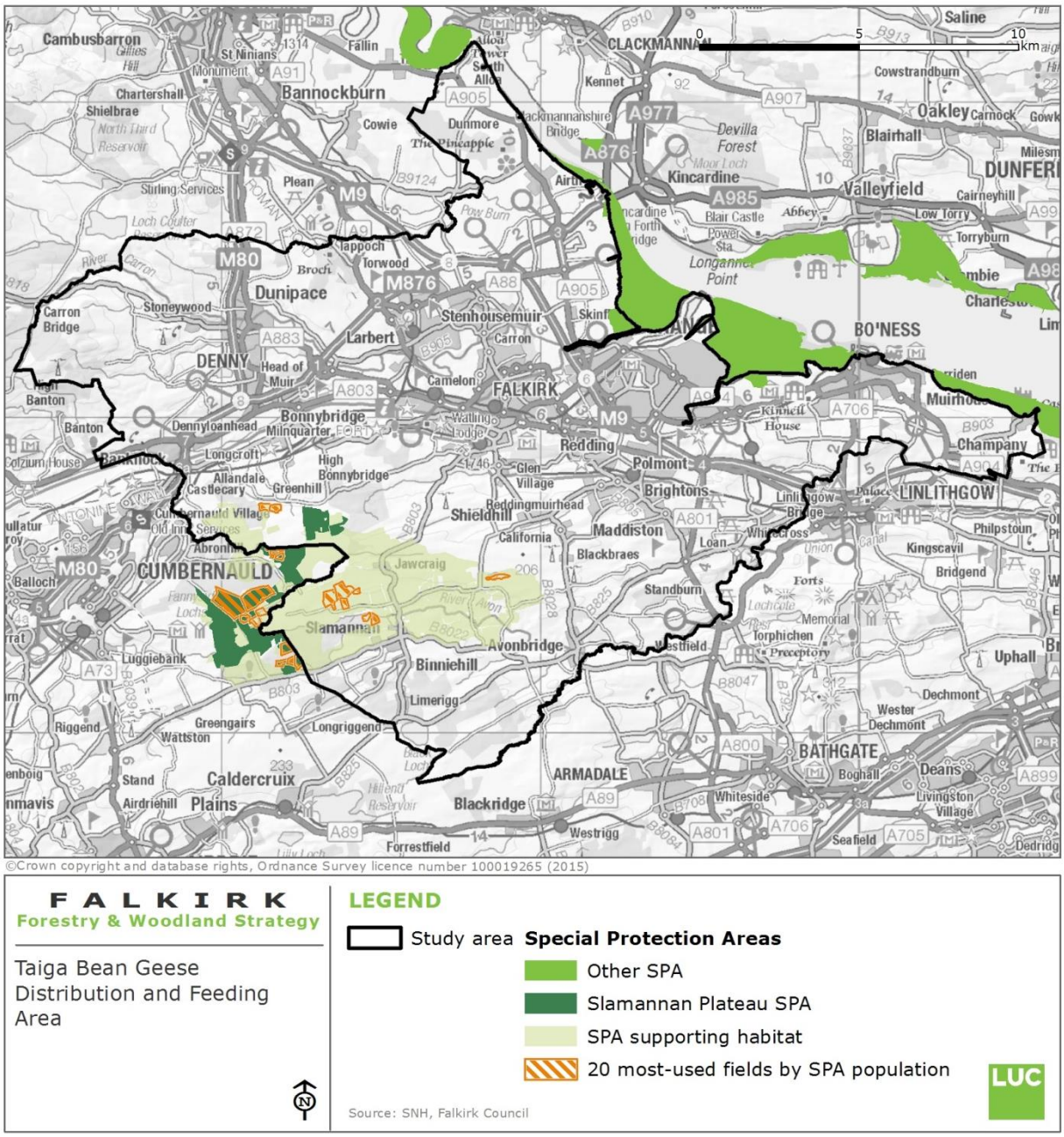
Habitats supporting Natura 2000 qualifying features

The Slamannan Plateau SPA supports an overwintering population of taiga bean goose, *Anser fabalis fabalis*, which is one of only two in the UK and accounts for over 50% of the total UK population.

As illustrated in Figure 5.2, the SPA consists of two small lochs and their surrounding peatlands; comprising a mosaic of raised, blanket and intermediate bogs, and associated areas of rough and improved pasture. The small portion of the SPA within Falkirk (c.80ha) consists entirely of grassland used for foraging, with the bulk of the site located within North Lanarkshire. However, the goose population uses a significant area of grazing land around the SPA for foraging, and this plays a critical role in maintaining the integrity of the site. It is therefore vulnerable to both large-scale land use change, and cumulative effects relating to habitat loss.

While there is clearly potential for some well-planned woodland expansion in this area, Habitats Regulations Appraisal (HRA) is likely to be required to demonstrate that proposals will not significantly affect the integrity of the site or compromise its conservation objectives.

Figure 5.2 Special Protection Areas (SPA) and supporting habitat



Tackle invasive non-native species

5.12 Invasive non-native species of plants and animals pose a significant and growing threat to Scotland's biodiversity – and the Falkirk area is no exception. Plants and animals introduced to areas outside of their natural range often have few potential predators and are frequently able to out-compete indigenous species occupying a similar ecological niche.

5.13 Riparian habitats are particularly susceptible to invasive plants, as seeds and other plant material can be quickly and widely spread by the action of the water. As these areas are often relatively undisturbed, even in urban areas, populations of invasive species can become well established without being noticed – making the issue harder to tackle.

5.14 In Falkirk, action is already underway through the Forth Invasive Non-Native Species Programme (FINNS)[35], working with Falkirk Council, agencies and community partners to tackle Japanese

[35] The FINNS programme is part of work carried out by River Forth Fisheries Trust in partnership with, inter alia, SEPA, SNH, LEADER, Falkirk Council and Falkirk Environment Trust.

knotweed, Himalayan balsam, rhododendron and giant hogweed infestations in the Carron and Avon corridors.

5.15 Efforts to identify and manage invasive non-native species in Scotland's river corridors can be tracked – and new instances reported – on the Rivers and Fisheries Trusts of Scotland (RAFTS) website[36].

5.16 The various grants available through the SRDP Sustainable Management of Forests (SMF) should be utilised to control the spread of non-native invasive species. Examples of such grants include the Grey Squirrel Control grant and the Predator Control for Capercaillie and Black Grouse grant.

5.17 Priorities to tackle invasive non-native species include:

ENV 1.8	Support catchment wide projects to identify, manage and eradicate invasive non-native species where they coincide with woodland.

Contribute to the delivery of the Central Scotland Green Network

5.18 This Strategy is intended to align closely with CSGN priorities and principles, and to provide a tool to enable land managers to access funding opportunities and ensure their woodland creation proposals are fit for purpose with regard to the wider aims of CSGN.

5.19 Falkirk lies at the physical and conceptual heart of the Central Scotland Green Network (CSGN), and is home to some of the best-known and most highly regarded environmental enhancement projects in the UK.

5.20 Falkirk Council has signed up to CSGN's Local Authority Concordat, and has pledged to embed CSGN in all relevant policies, strategies and plans and to ensure it is reflected in decision making. Longstanding partnership approaches have already delivered a range of transformative projects across Falkirk, of which new woodland has often been a key part.

5.21 To date, there has been a perception that CSGN is a solely urban initiative which, to some degree, is reinforced by the three priorities for the initiative defined in NPF3, namely:

- Remediation of derelict land;
- Prioritised action in disadvantaged communities; and
- Active travel.

5.22 However, creating physical and functional links between urban centres and rural habitat, leisure and recreation attractions and potential business development opportunities underpins everything that the initiative does. Communicating this universal relevance is an important task for partners, particularly the CSGNT. Articulating the benefits of understanding and participating in the initiative to land managers could help to unlock both valuable links to help deliver the CSGN, and business and development opportunities for local businesses and landowners.

5.23 Similarly, networks are most successful when they benefit from optimal connectivity. To achieve this, significant cross-boundary cooperation between strategic and delivery partners is required. While much has been achieved by public sector partnership, particularly in developing strategic projects, there have comparatively few explicitly cross-boundary delivery projects – and even fewer involving private sector partners. Nationwide, as the majority of woodlands are created by the private sector, unlocking this source of investment in Falkirk may be useful. CSGN is a strong, and widely recognised 'brand' that can help promote links between business and the community highlighting corporate social responsibility and tapping into potential markets.

5.24 Priorities to support the Central Scotland Green Network include:

[36] The Forth is one of a series of trial catchments in Ireland, Northern Ireland and Scotland. The website is funded by Scottish Natural Heritage, Esk Rivers Fisheries Trust, Cromarty Firth Fisheries Trust, The River Forth Fisheries Trust and the European Union's European Regional Development Fund through the INTERREG IVA Cross-border Programme through the auspices of the Controlling Priority Invasive Non-native Riparian Plants and Restoring Native Biodiversity (CIRB) Project.

ENV 2.1	Highlight and promote the benefits of participation in CSGN, and the availability of funding, to potential private sector partners in both urban and rural environments.
ENV 2.2	Work with partners and stakeholder to identify the potential for cross-boundary opportunities and delivery mechanisms.
ENV 2.3	Promote the importance of, and opportunities for, rural business and land management in providing the destinations that make the green network function.

Improve woodlands' contribution to the conservation and management of ecosystem functions and services

Air, water and soil quality

5.25 Woodlands already make an important contribution to the quality of Falkirk's environmental resources; 'scrubbing' pollutants from the air in urban areas and transport corridors, slowing flows of surface and flood waters and contributing to soil development and stability. However, there is potential for new and enhanced woodlands to make a greater contribution to these supporting and regulating services – as well as providing food and timber.

5.26 Run-off entering watercourses is an important source of diffuse pollution. In rural areas, this can arise from livestock and farmyard effluent and agri-chemicals being washed into streams and rivers, or from stock directly entering watercourses. The creation of appropriate wooded and mosaic buffer strips adjacent to watercourses can intercept this pollution and make a substantial contribution to meeting land managers' cross-compliance objectives under SRDP. The Carron and Avon catchments will be prioritised for rural diffuse pollution in the 2021-2027 round of River Basin planning cycle. Therefore positive action taken by land managers over the coming decade could make a major contribution to dealing with the issue in advance.

5.27 Expanded woodland networks in the corridors of Falkirk's three motorways, and the main rail lines, could help to reduce pollutant loads – especially particulate matter arising from diesel engines. There may be some potential in and around the Haggs Air Quality Management Area (AQMA), where the M80 passes between Banknock and Haggs. There may also be opportunities for new woodland to intercept particulate matter arising from quarrying near Banknock.

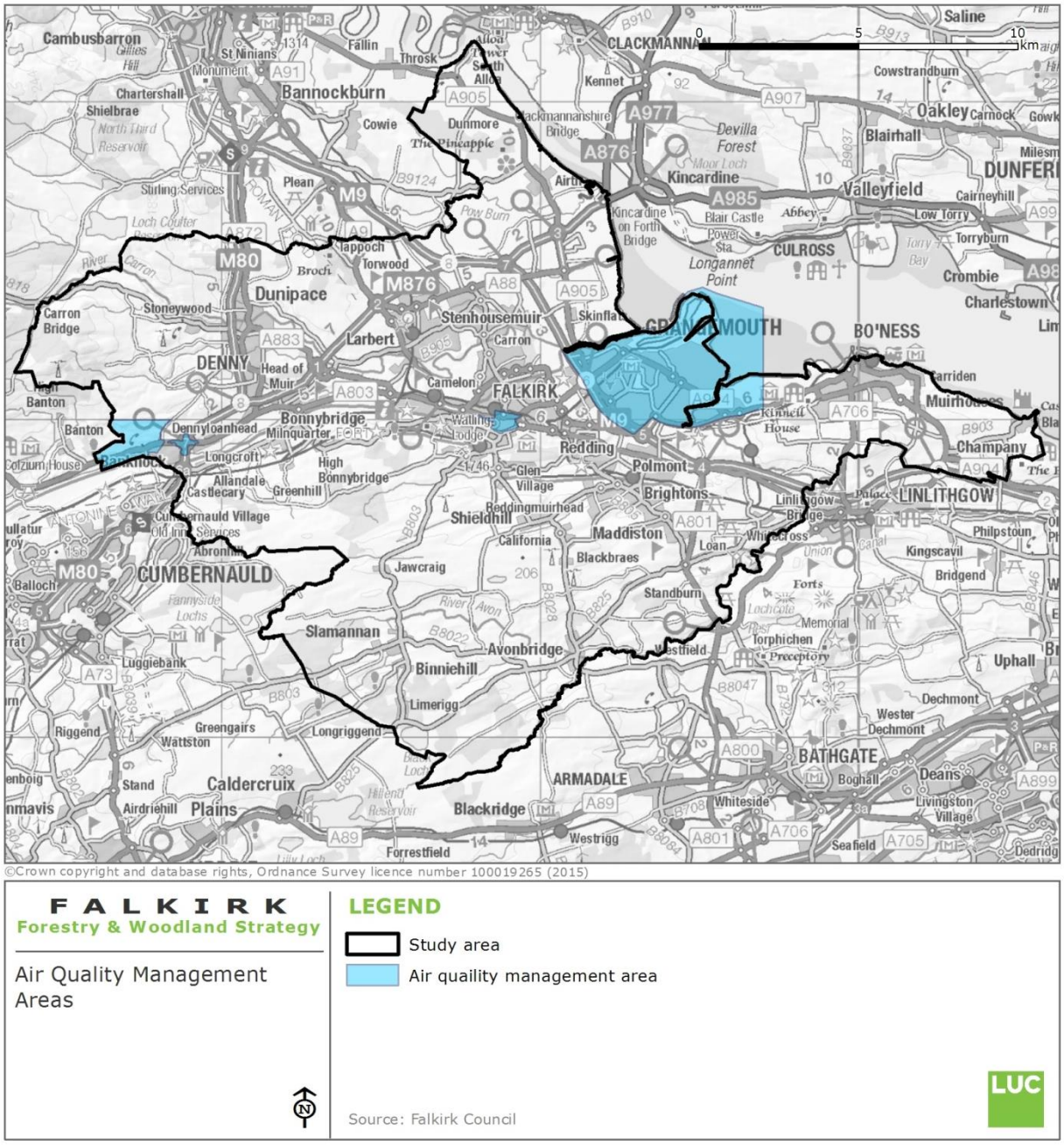
5.28 Woodland soils are generally excellent carbon stores, often holding around twice the amount of carbon stored in the trees[37]. In agricultural contexts, farm woodlands and shelter belts can play a key role in promoting soil stability, providing shelter to reduce wind erosion of ploughed fields and helping to reduce the intensity of rainfall, reducing run-off.

5.29 Priorities to improve air, water and soil quality include:

ENV 3.1	Promote the benefits of riparian woodland in reducing rural diffuse pollution and contributing to enhanced water quality.
ENV 3.2	Promote the benefits of new woodland in addressing air quality issues.
ENV 3.3	Highlight the value of farm woodland and shelter belts for improving soil quality and resilience.

[37] *Combating Climate Change: A Role for UK Forests* (2009). The Stationary Office, Edinburgh

Figure 5.3 Air Quality Management Areas



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Air Quality Management Areas

LEGEND

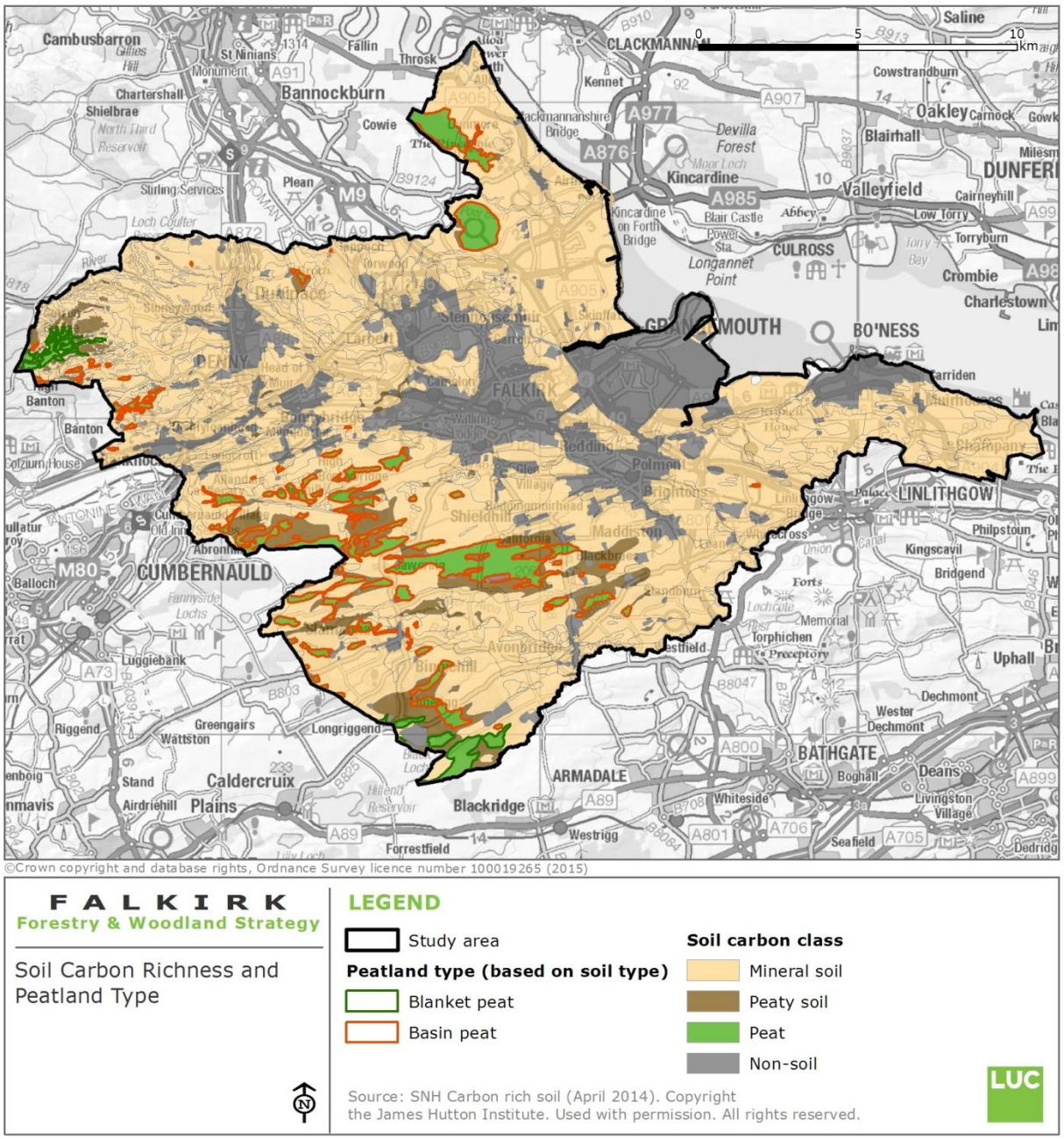
Study area

Air quaility management area

Source: Falkirk Council

LUC

Figure 5.4 Soil type



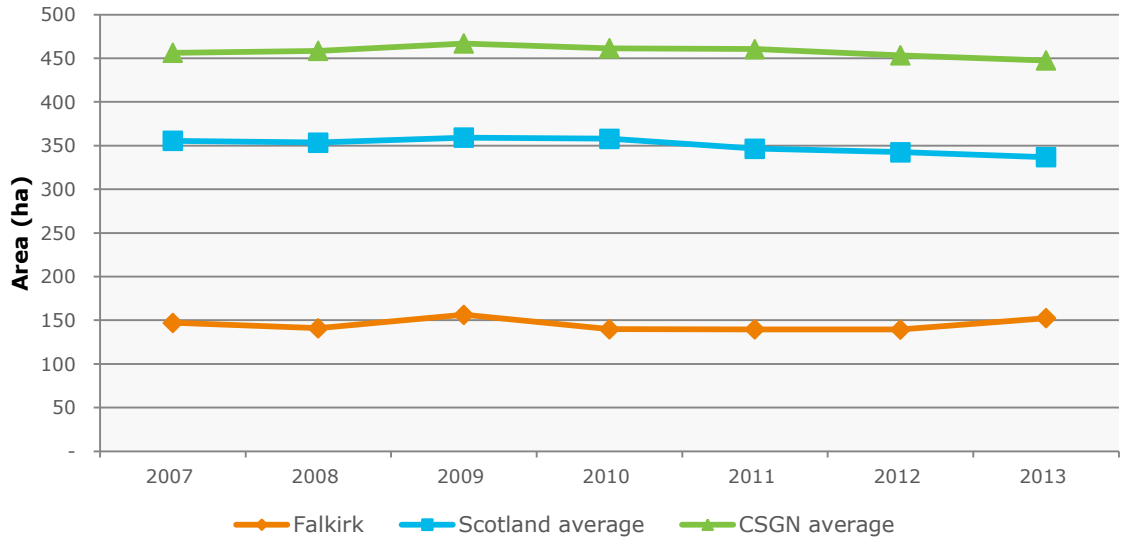
Regenerate brownfield, vacant and derelict land

5.30 One of CSGN's key aims is to tackle Central Scotland's legacy of vacant and derelict land – often a relic of our recent industrial past. Falkirk is no exception, and has a number of such sites in both town and country.

5.31 It is estimated that around 11% of Falkirk's population lives within 500m of derelict land, and further 18% lives within 1km[38] - significantly lower than the average for CSGN local authorities. As Diagram 5.1 illustrates, levels of dereliction in Falkirk have remained relatively constant since 2007, while a minor downward trend is visible for CSGN and Scotland as a whole. During the same period, the proportion of Falkirk's population within 500m of a derelict site has reduced by 34% since 2007, while the area of urban vacant land has increased by 28%. Of the sites in urban areas, it is worth noting that just over half of the resource has been vacant or derelict since at least 1991; similarly, 25% of the rural resource was identified before 1991.

[38] Scottish Government VDL survey 2013

Diagram 5.1 Area (ha) of derelict and urban vacant land (Scottish Government VDL survey 2013; averages per local authority area)



5.32 Trees and woodland can play a number of roles in helping to address this legacy. Planting on contaminated sites can help break down organic pollutants, reduce concentrations of heavy metals and contribute to improved soil quality, helping to unlock future sustainable uses. Temporary greening of derelict sites can help to improve their appearance and environmental contribution, reducing the real or perceived 'blight' and helping to make places more attractive for prospective investors and residents alike. Similarly, the use of biomass crops in this context can help to provide landowners with an interim income while more permanent solutions are secured.

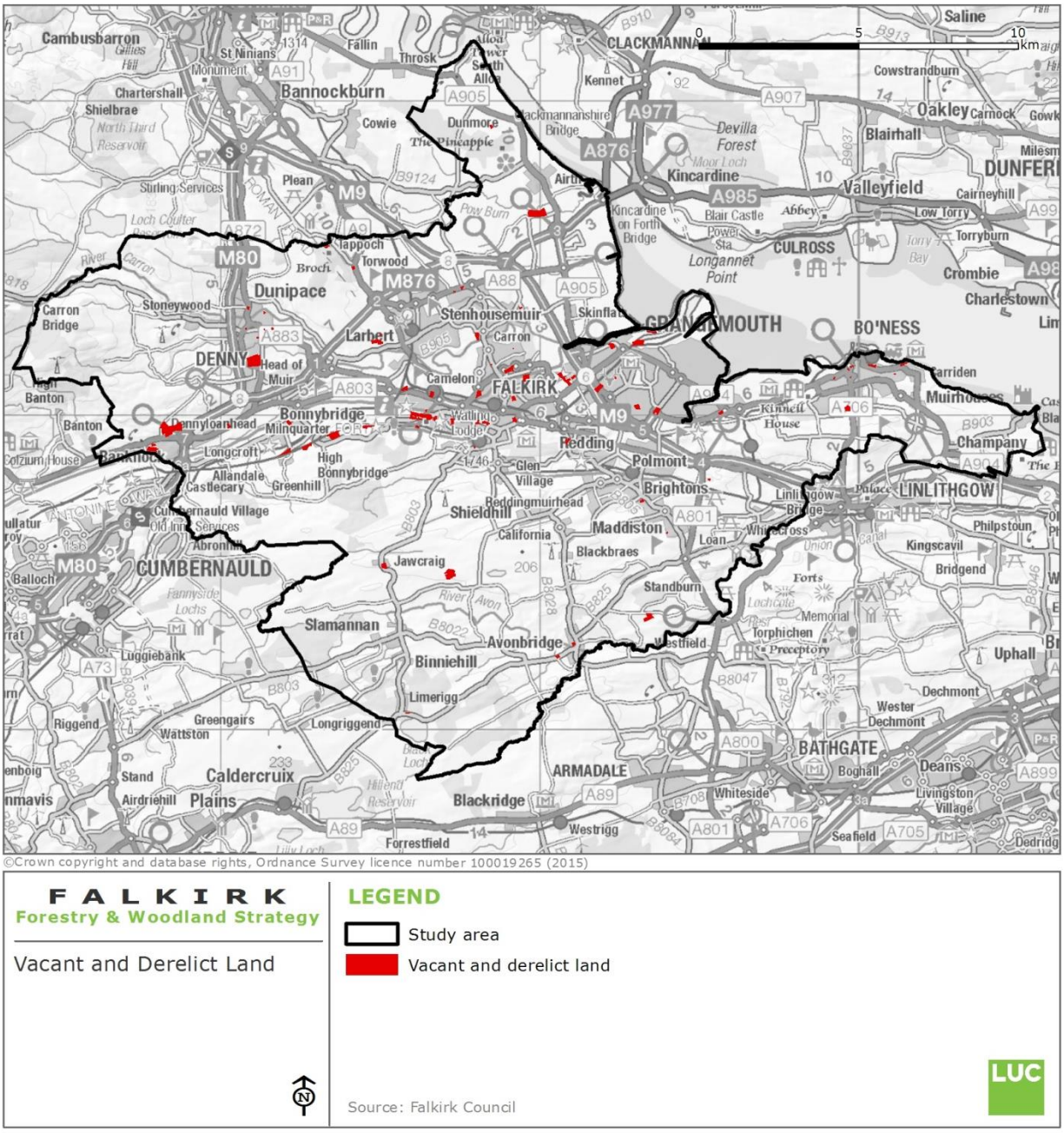
5.33 It should, however, be noted that some brownfield sites – particularly those long-abandoned areas that nature has begun to reclaim – can have significant biodiversity value in their own right (as 'Open Mosaic Habitat on Previously Developed Land')[39]. It should not therefore be assumed that all brownfield sites can be either redeveloped or planted without detailed assessment of site-specific values and sensitivities. There may, however, be opportunities for planting that can conserve key areas of mosaic habitat while contributing to the development of woodland networks.

5.34 Priorities to regenerate brownfield and vacant and derelict land include:

ENV 3.4	Work with land owners and developers to identify opportunities for woodland as part of brownfield remediation programmes.
ENV 3.5	Work with land owners and managers to bring forward opportunities for temporary greening to improve the quality of degraded places and help to attract investment.

[39] Recent research on this subject, by Buglife for SNH, is available on the SNH website

Figure 5.5 Vacant and derelict land



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Vacant and Derelict Land

LEGEND

Study area

Vacant and derelict land

Source: Falkirk Council

LUC

Contribute to the conservation, enhancement and understanding of Falkirk's valued natural heritage and historic environment

5.35 Falkirk has a rich natural and cultural heritage which provides a strong sense of place and local distinctiveness and which underpins the area's economic, environmental and cultural life. Trees and woodland already make an important contribution to the quality of the environment. This section of the Strategy aims to further increase this contribution, both as a consequence of the way existing trees and woods are managed, and the way that new woodlands are established.

5.36 It should be noted that all new planting and management proposals are required to comply with the UK Forestry Standard, and the associated suite of thematic guidance. UKFS sets out the approach of the UK governments to sustainable forest management, defines standards and requirements and provides a basis for regulation and monitoring.

Landscapes

5.37 Falkirk's landscapes are very varied; ranging from the hill ground of the eastern Kilsyth Hills and the flat, open carseland adjacent to the Forth, to the rolling, pastoral Slamannan Plateau and the deeply-incised and heavily wooded Avon Valley. Although relatively developed, the geology and history of the area are readily intelligible in the modern landscape through features as diverse as early Holocene raised beaches and the landscape legacy of the Improvement and industrial eras.

5.38 Woodland is a key feature of many of these landscapes, most notably in connection with historic gardens, designed landscapes and wider policy woodlands, and in river valleys. Ensuring that these woodlands are managed and enhanced is a priority to maintain landscape character.

5.39 Falkirk Council has designated three Special Landscape Areas (SLAs): Denny Hills; Slammanan Plateau / Avon Valley; and South Bo'ness (see Figure 5.7). These very different landscapes have distinct character and structure, to which woodland and trees make an important contribution to their 'Special Qualities', for example:

- **Denny Hills SLA**:
  - *"River Carron, with steep wooded slopes and gorge like character in eastern part of area and diverse vegetation cover along valley sides"*.
- **Slamannan Plateau / Avon Valley SLA**:
  - *"Eastern area has strongly wooded character and is distinctively more intimate in character with small fields and limited extensive views out.*
  - *Wide range of woodland and tree cover overall: conifer plantation, small broadleaf blocks, woodland along watercourses, policy woodland, tree avenues, overgrown hedge and field boundary trees and tree groups and small areas of recent woodland".*
- **South Bo'ness SLA**:
  - *"Steep, wooded, narrow, incised River Avon valley on south western boundary.*
  - *…well maintained hedges with individual trees and tree groups…*
  - *Areas of woodland cover at Kinneil, small to medium shelterbelts and broadleaf woodland groups elsewhere; field boundary/roadside broadleaf trees frequent.*
  - *Coastline east of Muirhouses on wooded escarpment; includes some untypical areas with limited woodland/tree cover.*
  - *Steep wooded escarpment on northern boundary between Grangemouth and Kinneil, providing a distinct boundary; also steep wooded escarpment along northern coastal boundary between Carriden and Blackness"*[40]

5.40 The recently prepared Landscape Character Assessment, as statutory Supplementary Guidance to the Falkirk Local Development Plan, provides detailed guidance on local character and sensitivities to woodland expansion (see Figure 5.6). This document is a key source for the spatial guidance set out in Chapter 8 of this Strategy.

5.41 In some areas of Falkirk, there are significant opportunities for new woodland and enhanced management of existing resources to contribute to improved landscape character, quality and distinctiveness. This has potentially significant implications for communities and their sense of identity and worth, and external perceptions and the willingness of businesses and visitors to invest in the area.

5.42 In line with UKFS, restructuring of existing softwood forests is already helping to create more naturalistic and integrated woodlands. Rising timber prices and demand can help to further drive this improvement – as well as providing a higher quality timber resource for the future.

[40] All text in quotation taken verbatim from Falkirk Council (2013) *Landscape Character Assessment and Landscape Designations: Supplementary Guidance SG09 – consultative draft.*

5.43 Priorities include:

ENV 4.1	Support the ongoing restructuring of conifer woodlands to enhance landscape character and quality.
ENV 4.2	Encourage the positive management of trees, woodlands and shelter belts in recognition of their contribution to landscape structure and distinctiveness.
ENV 4.3	Promote the role of trees and woodland in enhancing the character and quality of degraded or damaged landscapes.
ENV 4.4	Promote the conservation and enhancement of trees and woodlands that contribute to the Special Qualities of Falkirk's designated landscapes.

Figure 5.6 Landscape Character Areas

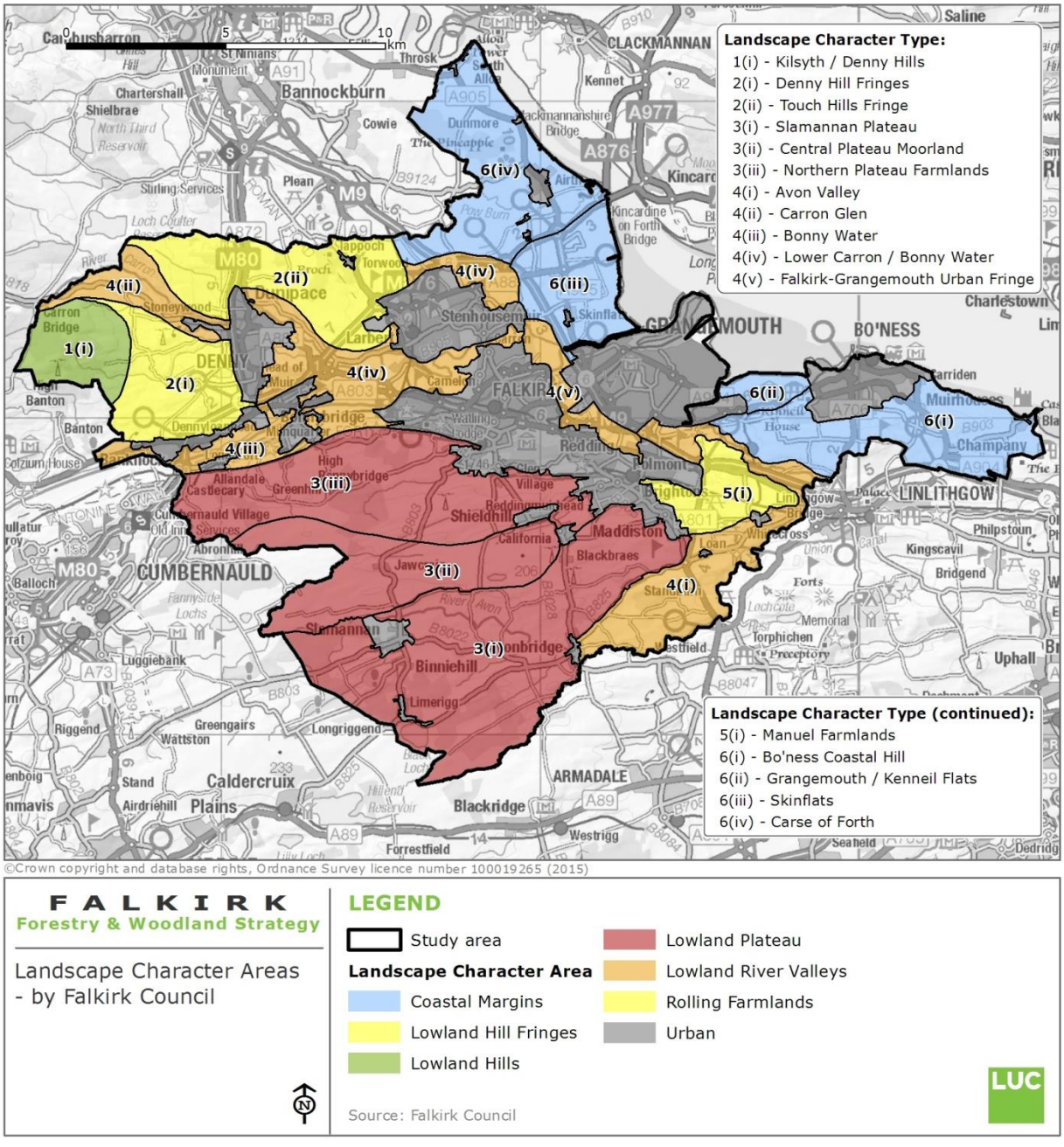
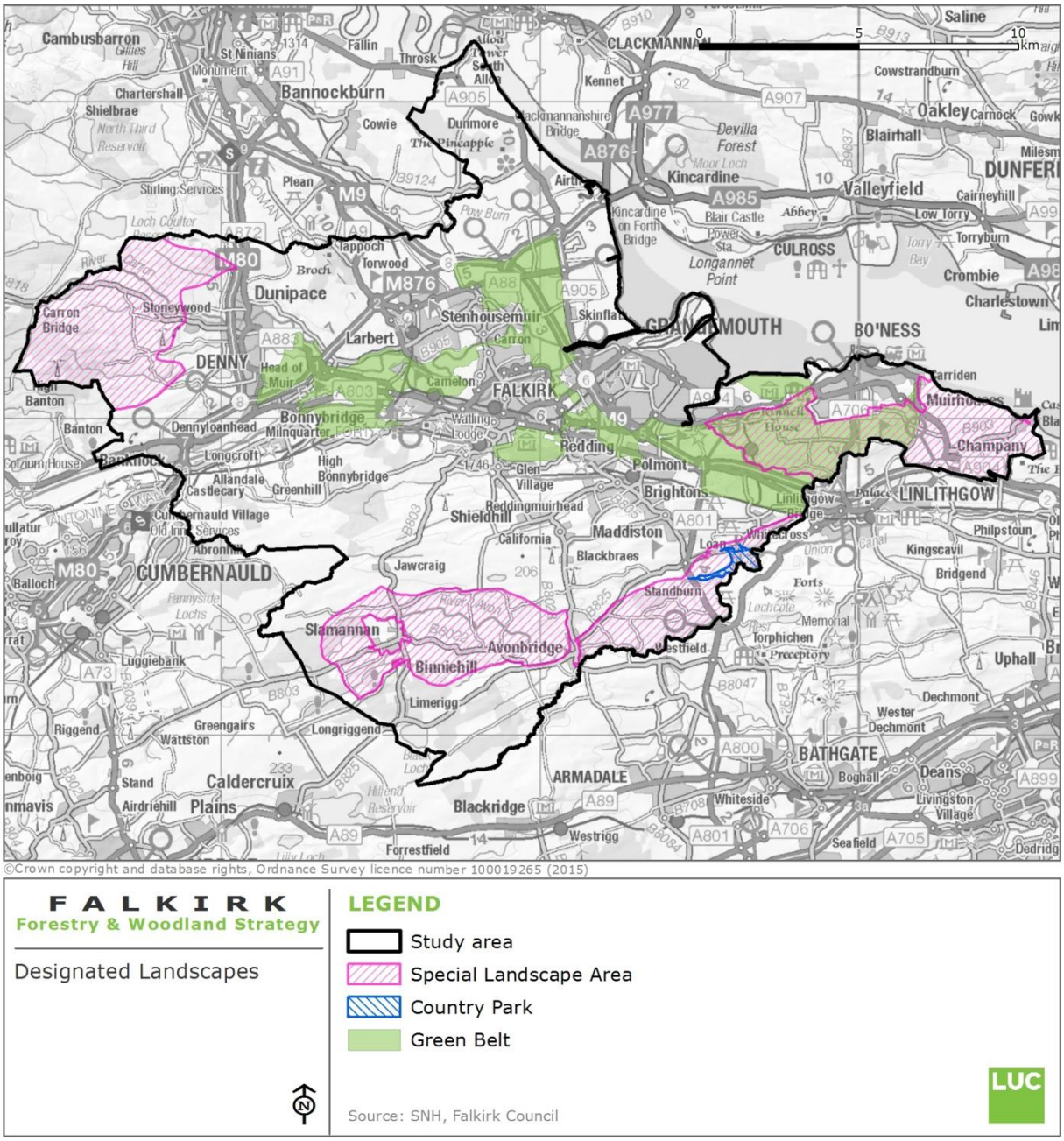


Figure 5.7 Designated Landscapes



Historic environment

5.44 Falkirk is located on one of the crossroads of Scottish history. Its position on the Forth-Clyde isthmus imbues it with an inherent strategic significance – underlined by the presence of a number of important military sites.

5.45 The Antonine Wall, constructed from around AD142 on the orders of the Emperor Antoninus Pius, was the latest, most northerly, complex and heavily defended of Rome's formal frontier systems. Dividing Scotland at its narrowest point, the Wall is a Scheduled Monument for most of its length and was inscribed as part of the transnational *Frontiers of the Roman Empire World Heritage Site* (WHS) in 2008[41]. Trees and woodland form an integral part of the character and setting of the WHS in Falkirk, but that setting is particularly sensitive to visual intrusion or interruption of key visual and functional relationships. Therefore new planting in this area, particularly in the defined 'Buffer Zone' (see Figure 5.8) needs to be well planned and managed, taking on the advice of consultees and appropriately qualified and experienced historic environment professionals.

[41] With Hadrian's Wall and the Upper German - Raetian *Limes* in central and southern Germany.

5.46 Falkirk also contains three Inventory Battlefields: all of the site of the Battle of Falkirk (1746), and parts of the sites of the battles of Linlithgow Bridge (1526) and Kilsyth (1645); further reflecting the strategic importance of the area's location on the main route through central Scotland, leading both to the west, and north across the Carse of Forth to Stirling and on to the Highlands.

5.47 While trees and woodlands are an important component of many of Falkirk's historic landscapes, often reflecting past patterns of land management and industrial activity, there is potential for new woodlands, whether planted or naturally regenerated, to affect sensitive parts of the historic environment. Archaeological sites can be vulnerable to damage from tree roots and from the use of machinery during planting, forest management and harvesting operations, and poorly designed planting can adversely affect the character and setting of heritage assets.

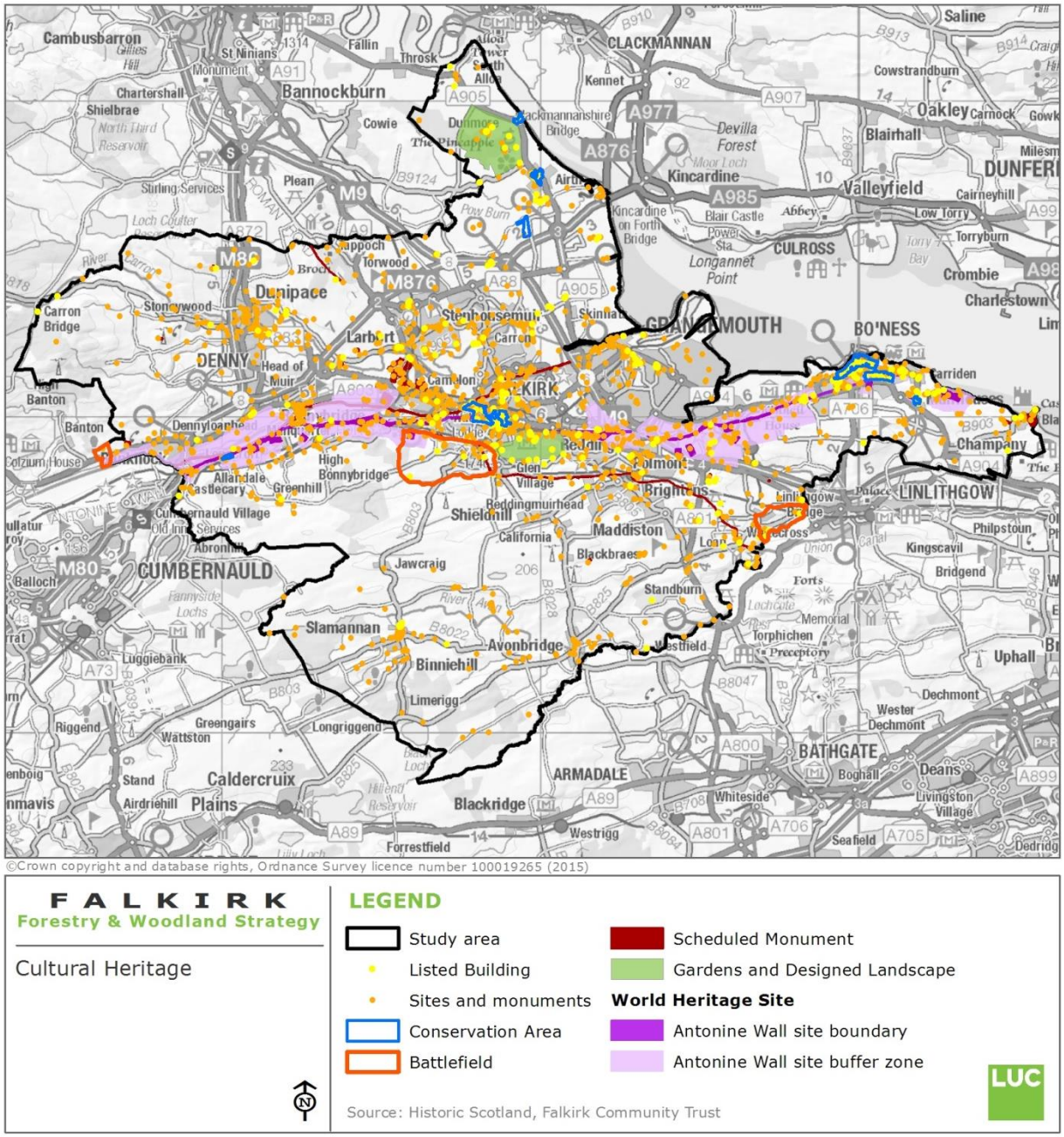
5.48 The restructuring of existing areas of softwood forest following harvesting can provide an opportunity to improve the physical setting and interpretation of historic features such as field boundaries and buildings.

5.49 Similarly, positive management of the area's extensive suite of designed landscapes is necessary to secure the contribution these assets make to local character, distinctiveness and a sense of time-depth in the landscape. Many of the trees in these historic landscapes are mature or over-mature and in some cases they are suffering due to a lack of appropriate management or from the effects of development. The changing climate could compound these issues as a result of storm damage, stress and disease. Positive management is needed to ensure that the historic, landscape and biodiversity significance of these landscapes is maintained. This may include planned replanting of individual trees, avenues or other features to ensure the character of these historic landscapes is maintained.

5.50 Land managers should refer to the Forestry Commission Forests and the Historic Environment guidance note for advice on planning operations and managing heritage assets on forest land and meeting the requirement of UKFS.

5.51 Designated heritage assets have been included in the 'sensitive' category in the detailed mapping and analysis accompanying this Strategy. However, it is important to ensure that site-specific assessments of woodland creation proposals give appropriate consideration to significant, but undesignated, heritage assets.

Figure 5.8 Designated heritage assets



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Cultural Heritage

LEGEND

- Study area
- Listed Building
- Sites and monuments
- Conservation Area
- Battlefield
- Scheduled Monument
- Gardens and Designed Landscape
- **World Heritage Site**
- Antonine Wall site boundary
- Antonine Wall site buffer zone

Source: Historic Scotland, Falkirk Community Trust

LUC

In planning and designing woodland creation and management proposals that are likely to have an impact on heritage assets or their settings, land managers should in the first instance seek advice on the local historic environment from **Falkirk Community Trust**.

Where proposals have the potential to affect the sites or settings of Scheduled Monuments, Category A listed buildings, Inventory Gardens and Designed Landscapes, Inventory Battlefields or the World Heritage Site, Historic Scotland should also be consulted.

5.52 Priorities include:

ENV 4.5	Use woodland restructuring as an opportunity to improve the setting, access to and interpretation of, heritage assets.

ENV 4.6	Promote understanding and awareness of trees and woodlands as part of the historic environment.
ENV 4.7	Work with partners to promote and present the historic environment and cultural heritage of Falkirk across the CSGN.
ENV 4.8	Encourage positive management of trees and woodlands within historic gardens and designed landscapes, including succession planning and selective replanting to conserve the character and significance of assets, and improve their resilience to the effects of climate change.

6 Economy

Introduction

6.1 Falkirk's forest and woodland resource is an important contributor to the region's economic output. Timber growing, management, harvesting, transport and processing offer significant potential to attract investment, secure income and support employment. The forestry sector not only makes a significant contribution to sustainable economic growth, but it also contributes to social and environmental activity with positive benefits in terms of support to agriculture and rural land management, tourism, community wellbeing and place quality.

6.2 This part of the Strategy aims to enhance the economic contribution made by woodland and forests under the following objectives:

- Promote Falkirk's woodlands as visitor destinations and encourage the growth of woodland-based tourism and recreation.
- Support the sustainable development of Falkirk's forest industries.
- Celebrate and build on the success of trees and woodlands' contribution to regeneration and high quality development in Falkirk.
- Contribute to diversification and sustainability of the rural economy and communities.

Promote Falkirk's woodlands as visitor destinations and encourage the growth of woodland-based tourism and recreation

6.3 Woodlands already contribute to Falkirk's appeal as a place to visit or spend leisure time, reflecting the wider trends towards active outdoor recreation. The quality of the region's environment is therefore critical in maintaining and expanding its appeal to local people and visitors alike.

6.4 According to VisitScotland's *Tourism in Scotland's Regions 2013* statistical report[42], the Falkirk area generated £63.6m from sustainable tourism with 3,800 sustainable jobs in the tourism industry. The report also identifies the Falkirk Wheel as the top visitor attraction in the region.

6.5 The success of the Falkirk Wheel over the last 10 years has transformed the area's potential for growth in tourism and has established a profile for the area as a visitor destination. By 2014, the Falkirk Wheel had become one of Scotland's most popular tourist attractions attracting 409,142 visitors[43]. As well as boat trips along the Union Canal and Forth and Clyde Canal, the attraction also provides over 4km of woodland walks leading to the Roman Antonine Wall. A key challenge will be diversifying this existing tourist market into new areas. This could be achieved through joint marketing of woodland locations in partnership with established visitor attractions such as the Falkirk Wheel, or by creating stronger marketing links between established attractions of a similar type, such as between Callender Park and other important historic gardens and designed landscapes within the area.

6.6 There is considerable scope to further develop the contribution of woodlands to tourism in Falkirk. For example, the HELIX, a national regeneration project which will transform 350 hectares of under-used urban fringe landscape between Falkirk and Grangemouth, intends to plant 750,000 trees and create a network of paths and cycleways as part of its ambitious plans to transform the

[42] VisitScotland, 2014. *Tourism in Scotland's Regions 2013* [pdf]. Available at: http://www.visitscotland.org/pdf/Tourism%20in%20Scotland's%20Regions%202013.pdf [Accessed 20 August 2014]
[43] VisitScotland, 2014. *Scotland's top 20 most-visited attractions* [online]. Available at: http://www.visitscotland.com/blog/culture/most-visited/ [Accessed 20 August 2014]

area into a major visitor attraction. Therefore, there is significant potential to develop and publicise opportunities for active outdoor recreation in the woodlands, including mountain biking, walking and activities such as orienteering.

6.7 The region's cultural heritage is an important draw for visitors and includes a number of sites where associated woodland-based recreation is important, most notably Callendar Park. In addition, the Antonine Wall, a World Heritage Site since 2008, attracts a growing number of visitors to its ramparts and forts.

6.8 Many other forests and woodlands in Falkirk include nature trails, cycle routes, and interpretation facilities. Developing and promoting woodland-based attractions as part of Falkirk's tourism offer will optimise benefits for the local economy. However, it will be necessary for partners to exploit opportunities for strategic collaboration.

6.9 Priorities include:

EC 1.1	Work with stakeholders to understand the visitor profile of woodland-based attractions and develop a coordinated approach to increasing footfall, visit duration and total spend.
EC 1.2	Promote woodland-based tourism and recreation, including joint marketing campaigns with other visitor attractions, tourism operators and accommodation providers.
EC 1.3	Encourage the development of small scale ecotourism enterprises linked to woodlands and forests.
EC 1.4	Develop and publicise opportunities for active outdoor recreation in woodlands and forests, including mountain-biking, walking and activities such as orienteering.

Support the sustainable development of Falkirk's forest industries

Support a sustainable timber sector

6.10 There is considerable scope for timber to contribute to sustainable economic growth in Falkirk. The Central Scotland Green Network covers the entire Falkirk Council area, and while woodland cover is presently relatively low, expansion has been actively promoted for many years. Between 1997 and 2012 approximately 1.4 million trees have been planted on an area covering 584.32ha of land within the Falkirk Council area. However, it is of note that since 2008 the rate of new grant-funded woodland planting has slowed to an average of approximately 5.8ha per year. This is compared to a rate of 50.5ha per year between 1997 and 2007[44]. New targeted measures contained within the Forestry Grant Scheme 2014-2020, namely the Harvesting and Processing grant and the Forest Infrastructure grant, aim to address this decline.

6.11 Earlier sections of this Strategy have outlined the objectives for expanding the area of timber-producing woodland within Falkirk, bringing an increasing proportion of existing woodlands into positive management and ensuring that any losses are compensated with appropriate new planting. The promotion of forest management and expansion with the appropriate and relevant species will help to support a sustainable local forest products industry. Encouraging the continued investment in timber processing within the region will sustain a predictable and stable supply of good quality timber. Given the number of well-established forest product businesses based within or close to the region, such as James Callander & Son, James Jones & Sons[45], Thornbridge Sawmill and Verdo Renewables (pellet manufacturer) in Grangemouth and Callendar Estate, a significant economic advantage is gained by retaining the economic value from the timber processing industries in the region. In addition, a number of timber suppliers, such as Anderson Timber, Dunmore and Edmiston and Mitchell's in Falkirk make use of locally-produced

[44] Falkirk Council, 2014. *Falkirk Local Development Plan Supplementary Guidance SG13 Open Space and New Development Environmental Report.* Falkirk: Falkirk Council.
[45] Headquartered in Larbert, but with no processing capacity in the Falkirk Council area

material. This also increases the efficiency of the timber supply chain, improving sector competitiveness, and reducing potential social and environmental impacts from timber transport.

6.12 Expanding the value added by processing requires significant investment from companies already active in the region, or new inward investment from external sources. Delivering additional capacity requires substantial effort to secure appropriate sites in suitable locations and liaison with the planning authority to develop these sites in the most sustainable manner. Ensuring that future Local Development Plans make appropriate provision for future market demand should be a key line of engagement for stakeholders in the sector.

6.13 Currently, many of the existing softwood plantations are being felled on a planned basis to be replaced with a more varied woodland structure to improve the structure, design and mix of species. For example, the large Sitka spruce woodlands at Callendar Estate are being felled and replaced with a significant commercial conifer aspect but also extensive areas of native broadleaves. There may also be opportunities to improve timber quality in subsequent rotations through wider adoption of continuous cover forestry, in addition to improving the appearance of woodlands and improving their resilience to the effects of climate change. Raising awareness amongst local architects and builders to develop designs that can incorporate product specifications that are produced locally should be encouraged.

6.14 Potential demand for hardwood timber will increase interest in developing new productive broadleaf woodlands and increased management of existing woodlands for their timber resource. Whilst in volume terms this will never be as significant as the softwood sector, it still has the potential to create rural employment and added value.

6.15 Priorities for supporting a sustainable timber sector include:

EC 2.1	Sustain consistent long-term timber supplies and industry investment, through planting of new productive forest areas – especially those containing high percentages of 'whitewood' tree species.
EC 2.2	Work with the forestry sector to develop and increase the competitiveness of the Falkirk timber manufacturing, processing and distribution businesses, with a focus on provenance and sustainability.
EC 2.3	Encourage the use of Falkirk-grown timber for manufacturing purposes (construction materials, furniture, and fencing).
EC 2.4	Promote sustainable silvicultural practices, supply chain development and markets to grow the hardwood timber sector in Falkirk.
EC 2.5	Support the use and development of machinery rings to provide specialist equipment to improve the attractiveness and viability of farm woodland.
EC 2.6	Promote the development of forest plans as a tool for improving timber quality and output while delivering more sustainable woodland management.
EC 2.7	Highlight forestry's economic success and promote the opportunities to encourage further inward investment to help the sector grow.
EC 2.8	Facilitate engagement between the timber sector and the planning authority to ensure that appropriate land allocations and policy frameworks are in place to support the development of new and enhanced processing infrastructure.

Support the developing biomass sector

6.16 There is increasing interest in developing woody biomass as a low carbon source of heat and power across Scotland. According to the *Woodfuel Demand and Usage in Scotland Report 2013*[46], there has been a 312% increase in woodfuel usage between 2005 and 2010 with over 737,000 tonnes of woodfuel used in Scotland in 2012. By 2016, total wood fuel use is projected to rise to 1, 168,000 tonnes. Between November 2011 and May 2014, 840 woodfuel installations have been accredited for non-domestic Renewable Heat Incentive (RHI) payments in Scotland, representing a capacity of 179MW. Therefore, more woodland must be brought back into management to produce sufficient quantities of fuel to keep pace with the increased demand that the RHI is stimulating.

6.17 Although large scale plants are the biggest users of wood fuel, the fastest growing sector is small to medium scale heat use. This market provides renewable heat to 840 projects across Scotland ranging from domestic installations, small boiler heating officers and industrial applications. The rapid growth in the woodfuel market is coupled with an increasing demand for both raw material and processed woodfuel. The supply of different types of woodfuel comprises mostly of virgin fibre (chip) (63% of the market) and recycled fibre (31%), used for wood chip and logs, with a small market for wood pellets (4%) and short rotation coppice (2%). There has also been a net increase of 203 industrial and commercial woodfuel installations to 505 in 2012, of which three were in Falkirk.

6.18 In the short to medium term, the majority of material for woodfuel will come from management of existing woodlands and as co-products from felling operations. This offers a potentially important source of income to land managers that can help bring otherwise neglected woodlands into positive management, in addition to supporting rural diversification. Already some of the larger estates, such as Callendar Estate[47], are recognising the economic benefits of managing their woodland to provide woodfuel for their own use or for sale; however there are many more that are currently neglected and unmanaged.

6.19 Falkirk's woodlands can play an important role in supplying woodlfuel to emerging and future biomass plants. In 2013, consent was granted by the Scottish Government to develop the Grangemouth Renewable Energy Plant, a £465m wood-fuelled heat and power plant, at the Port of Grangemouth. The plant is intended to export up to 100 MWe of renewable electricity to the local electricity network and also up to 200 MWth of renewable heat to local users from the use of up to 1.55 million tonnes per year of sustainably sourced biomass fuel. However, this development is currently on hold, and will likely affect the potential market for biomass crops – and the need for development of short-rotation forestry or coppice woodlands. A second plant, at Rosyth in Fife, also has consent but is similarly on hold.

6.20 Nevertheless, Falkirk has considerable scope for the development of biomass[48]. New planting for biomass production - in the form of short rotation forestry[49]– can also play a role in delivering woodland expansion. Vacant and derelict land, and stalled development sites, may have potential to support planting for biomass, providing an income from otherwise unproductive land and contributing to temporary greening.

6.21 However, as a bulk material, transport costs for woodfuel can be comparatively high - therefore establishing sufficient local processing capacity to support growing markets will be necessary. A number of processors are already in place, such as Biomass Heat Solutions based in Falkirk and Verdo Renewables in Grangemouth, supplying a range of clients from householders to large businesses. The public sector can help support the development of the woodfuel market by specifying biomass boilers for public buildings, and encouraging developers and householders to adopt the technology wherever practical.

6.22 The Central Scotland Woodfuel Forum brings together private and public sector organisations and individuals to promote both the supply of and demand for woodfuel. The aim of the forum is to

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[46] Forestry Commission Scotland, 2013. *Woodfuel Demand and Usage in Scotland Report 2013* [pdf]. Available at: http://www.forestry.gov.uk/pdf/WoodFuelDemandandUsageinScotland-2013.pdf/$FILE/WoodFuelDemandandUsageinScotland-2013.pdf [Accessed 19 August 2014]

[47] Callendar Estate produces 2500 tonnes of wood chip annually.

[48] Falkirk Council, 2011. *Falkirk Local Development Plan Technical Report 8: Renewable Energy*. Falkirk: Falkirk Council.

[49] Short-rotation coppice is not supported in the Proposed Scotland Rural Development Programme 2014-2020

develop a collective voice for the sector, and encourage members to work together to improve all stages of the wood fuel process, from supply to installation. The Strategy should support an environment where individuals and businesses are equipped with sufficient expert information to make informed decisions about investing in woodfuel technologies.

6.23 Priorities supporting the biomass sector include:

EC 2.9	Establish and monitor regional demand for wood fibre from the biomass sector to understand effects on local markets.
EC 2.10	Encourage management of existing woodland for woodfuel by highlighting the financial benefits and sharing best practice among land owners and managers.
EC 2.11	Work with partners, stakeholders and land owners to identify vacant, derelict, stalled and safeguarded sites with potential for biomass planting as part of temporary greening solutions.
EC 2.12	Support appropriate planting for biomass, in line with the Falkirk Forestry and Woodland Strategy spatial guidance.
EC 2.13	Facilitate engagement between the biomass sector and the planning authority to ensure that future processing capacity can be delivered in the right locations.
EC 2.14	Encourage the wider use of woodfuel in appropriate domestic and smaller-scale commercial settings to support the development of the region's biomass supply chain.

Celebrate and build on the success of trees and woodlands' contribution to regeneration and high quality development in Falkirk

6.24 There is increasing recognition that a good physical environment plays an important role in attracting economic investment and a skilled workforce. Falkirk, like much of Central Scotland, is faced with a legacy of former industrial sites with many areas affected by mineral workings. At the same time, there is a pressing need to develop local companies and attract new investment into the area in order to grow and diversify the local economy.

6.25 Trees and woodland can play a role in enhancing the landscapes and townscapes of these areas, contributing to place-making and supporting initiatives to attract economic investment to the area. Initiatives such as the Falkirk Greenspace Initiative demonstrate the social and economic value of enhancing degraded environments. To date, the Falkirk Greenspace Initiative has delivered more than 100 green space projects, remediated 1,000ha of land, brought 400ha of woodland under management, and planted more than 1.3 million trees which has created accessible community woodlands, enhanced transport corridors, restored derelict sites, regenerated aging plantations, and provided a landscape framework for new business and recreational interests.

6.26 However, there is significant potential for the sector to assist in driving regeneration. In 2013, the Scottish Vacant and Derelict Land Survey (SVDLS)[50] identified 89 ha of derelict land and 64 ha of urban vacant land in the Falkirk Council area. This equates to 153 ha of derelict and urban vacant land comprising of 82 individual sites. Vacant and derelict land could provide sites for the planting of new woodland which will help create high quality landscapes and improve the appeal of the environment for investment.

6.27 In some locations there may be potential to establish temporary woodlands, including energy crops, on safeguarded or stalled development sites, thus improving the environment for investment and providing a potential source of income.

[50] Scottish Government, 2014. *Statistical Bulletin – Scottish Vacant and Derelict Land Survey 2013.* [pdf] Edinburgh: Scottish Government. Available at: http://www.scotland.gov.uk/Resource/0044/00444542.pdf [Accessed 27 March 2014]

6.28 Priorities include:

EC 3.1	Build on the successes of environmental enhancement initiatives to ensure high quality woodland and greenspace remains central to regeneration in Falkirk.
EC 3.2	Promote partnership working between agencies, communities and developers to ensure that planned development in Falkirk makes an optimal contribution to the delivery of green networks.
EC 3.3	Promote the delivery of woodland as a component of high quality green infrastructure in parallel with new development.
EC 3.4	Work with developers, agency partners and stakeholders to highlight the benefits of delivering high green infrastructure in advance of new development.
EC 3.5	Work with partners, stakeholders and land owners to identify vacant, derelict, stalled and safeguarded sites with potential for temporary greening solutions to improve the environment for investment.

Contribute to diversification and sustainability of the rural economy and communities

6.29 The potential diversification opportunities arise either directly or indirectly from the existing woodlands or through the creation of new ones. Encouraging the positive management of existing woodlands in order to increase their economic value, timber production, resilience, biodiversity and contribution to landscape character is a priority. Managed woodland can also create a source of wood fuel and timber for local use.

6.30 The development of new woodland in agricultural areas must be well integrated with wider land use, including supporting established uses to deliver optimal benefits. New farm woodlands, comprising copses, shelterbelts and field boundary trees can help diversify rural incomes, provide a source of timber and low carbon wood fuel, contribute to habitat networks and sustainable flood management, absorb carbon from the atmosphere and create shelter and shade for animals and crops. The SRDP Sustainable Management of Forests (SMF) Agroforestry grant should be utilised to create small-scale woodlands within sheep grazing pastures.

6.31 In areas where farming activity is now marginal (e.g. along parts of the urban fringe or in areas affected by mineral working) new woodland can provide an alternative land use, with potential for local training and employment initiatives. Similarly, larger-scale proposals can have an important role to play in helping to diversify or secure a longer-term future for land-based enterprises. While large-scale or 'whole farm' proposals may not be appropriate – or economically viable – on prime quality agricultural land, in other areas there may be significant potential for such schemes. However, proposals of this nature must be delivered in a way that seeks to avoid adverse impacts on local patterns of agriculture, and that complements and enhances the agricultural and environmental value of the remaining unplanted land.

6.32 Priorities for contributing to diversification and sustainability of the rural economy and communities include:

EC 4.1	Encourage appropriate woodland expansion and management that supports local businesses and provides opportunities for farm diversification.
EC 4.2	Promote a joined up approach to land management, identifying economic opportunities for more integrated approaches to land-use.
EC 4.3	Support the growth of existing and the development of new woodland management businesses including traditional private companies, social enterprises and community businesses.
EC 4.4	Support proposals for well-designed 'whole farm' or significant conversion to woodland, where it can be demonstrated that opportunities for integration with other land uses have been optimised, and environmental issues have been appropriately considered.

7 Communities and quality of life

Introduction

7.1 Trees and woodlands can contribute to quality of life, supporting the development of healthy and sustainable communities though the enhancement of the quality of the immediate environment. The Strategy seeks to maximise community benefit from forests and woodlands through a variety of means, including securing and supporting new opportunities for woodland projects, facilitating community involvement in woodland planning, management and ownership, and maximising the benefits for active recreation, education, training and the development of social enterprises.

7.2 The Strategy will provide a means of delivering the woodland required to contribute to the delivery of the Central Scotland Green Network (CSGN), and is therefore strongly linked to its agenda.

7.3 The Strategy aims to maximise the contribution of trees and woodlands to quality of life under the following objectives:

- Facilitating community involvement in woodland planning, management and ownership.
- Supporting community enterprise and development.
- Supporting opportunities for education and lifelong learning.
- Contributing to physical and mental health wellbeing.
- Enhancing local sense of place and promoting connections to the wider environment.

Facilitate community involvement in woodland planning, management and ownership

7.4 There is significant scope for communities to become more actively engaged in planning, developing, managing and maintaining woodlands across Falkirk. Community involvement in woodland planning and management utilises local and user knowledge, ideas, skills and expertise which ensures the long-term sustainability of the woodland.

7.5 Scotland has a vibrant community woodland sector with over 200 groups involved in or responsible for the management of thousands of hectares of woodland[51]. Community involvement ranges from partial or complete ownership through to small-scale informal activities, such as community litter picks or tree planting. For example, the Lionthorn Community Woodland Association in Falkirk works with the landowner, Callendar Estate, to transform Lionthorn Woods from a commercial plantation focused on Sitka spruce and Scots Pine to a diverse woodland with a wide mix of tree species. The Association organises social events, work days and educational events, which help build community capacity and empower the local community to get involved in future maintenance and improvement of their local environment.

7.6 There are particular opportunities to support community involvement close to urban areas. The Woods In and Around Towns (WIAT) initiative is one of the most significant initiatives undertaken by Forestry Commission Scotland, and its partners, to highlight the role of urban woodland management in delivering economic, environmental and social benefits. This initiative has particularly benefitted the Falkirk area and has included forest management operations, creating paths, installing signage and seating, and delivering a programme of forest education and community engagement. As part of the Falkirk WIAT initiative, 25 community events were

[51] Community Woodland Association, 2014. *Welcome to the CWA* [online]. Available at: http://www.communitywoods.org/ [Accessed 22 August 2014]

organised including litter picking, tree planting and ranger guided walks, and over 250 volunteers attended events and activities. This has helped to build the confidence and capacity of local organisations and encourages more people to use woods and greenspaces across the area.

7.7 Organisations including The Conservation Volunteers (TCV), Forestry Commission Scotland, Central Scotland Green Network Trust (CSGNT), the Falkirk Greenspace Initiative, and Falkirk Council rangers have gained substantial experience in assisting community groups and acting as catalysts for action on the ground. They have a key role to play in supporting encouraging communities to become involved in woodland projects.

7.8 Woodlands can also be used to support volunteering and training initiatives which can help people gain skills and confidence in addition to improving their health and well-being. For example, Bespoke, a Community Development Company, is a non-profit organisation, run by volunteers, which works with Callendar Estate to manage the path and trail network, carrying out repairs and maintenance work to the trails as well as developing new features on the cycle trails. Bespoke also organise sporting events for the local community including off-road cross country mountain bike races.

7.9 The National Forest Land Scheme (NFLS) gives community organisations, recognised non-governmental organisations (NGOs), and appropriate housing bodies the opportunity to buy or lease National Forest Land where they can provide increased public benefits. Since the scheme's inception in 2005, there have been 22 projects that have purchased land from Forestry Commission Scotland.

7.10 Priorities include:

COM 1.1	Support community involvement in woodland projects, especially through mentoring and co-ordinating delivery of activity on the ground.
COM 1.2	Work with the sector, land managers and stakeholders - including the Central Scotland Green Network Trust - to highlight the benefits of community engagement and participation in woodland planning and development processes.
COM 1.3	Encourage stewardship of woodlands by and for local people and support the development of the necessary skill base to deliver meaningful engagement and long-term management.
COM 1.4	Support the delivery of training to forest and land managers to help provide the tools for positive and productive community and stakeholder engagement.
COM 1.5	Support and facilitate capacity-building through Community Planning Partnerships and relevant community-based structures.

The **Community Empowerment (Scotland) Bill** was introduced to the Scottish Parliament on 11 June 2014 and cleared Stage 1 (first committee stage) in February 2015.

The Bill is intended to, amongst other things, expand the 'community right to buy' provisions of the Land Reform (Scotland) Act 2003 to enable certain community bodies to buy abandoned, under-used or neglected land and buildings – even where the property is not on the open market. It also confers the ability for communities to take over ownership, rental or management of public assets (including woodland) – with the agreement of the Scottish Government – where their plans are of more public benefit than current uses.

It adds to the potential for communities to take a leading role in managing local environments – but also places a responsibility on public bodies to understand their land holdings and respond positively to community aspirations.

Support community enterprise and development

7.11 In recent years there has been growing interest in the potential contribution that social enterprises[52] can make to society. It has been suggested that they can help to create a more ethical, sustainable and socially inclusive economy and can support community empowerment, facilitate social inclusion and generate social capital. Traditional woodland enterprises, in addition to timber, include country sports such as hunting and shooting, and the production of venison, charcoal, crafts and firewood. There are also opportunities in the provision of recreation, adventure play, team building and other commercial leisure activities, which all add value to the local economy. There are a number of social enterprises that currently operate in Falkirk in addition to plans for future social enterprises, such as the biochar project at the HELIX.

7.12 Priorities supporting community enterprise and development include:

COM 2.1	Support the establishment of community and social enterprises with a woodland and/or forestry dimension.
COM 2.2	Support the delivery of woodland skills training to emerging woodland-focused community and social enterprises.

Support opportunities for education and lifelong learning

7.13 Falkirk's woodlands have the scope to support wider economic and social objectives, such as training and education and addressing social inclusion.

7.14 Presently, Falkirk's woodlands are being used for a variety of outdoor learning initiatives to support the delivery of the Curriculum for Excellence, including the Outdoor & Woodland Learning (OWL) Scotland (previously known as the Forest Education Initiative). OWL Scotland aims to increase the understanding and appreciation, particularly among young people, of the environmental, social, and economic potential of trees, woodlands and forests. The initiative promotes the concept of Forest Schools and Forest Kindergarten which involve small groups of children or adults visiting local woodlands every one or two weeks to take part in a range of forest-based activities. Currently, there are 11 primary schools in the area with forest education initiatives.

7.15 The Central Scotland Green Network Learning Outdoors Fund invested in supporting schools develop their outdoor learning resources. The following projects in Falkirk received funding:

- Larbert High School was awarded a grant to purchase plants, seating and onsite interpretation to encourage local people to explore nearby greenspaces and heritage.
- Carron Dams Local Management Group and The Scottish Wildlife Trust were awarded a grant to install two interpretation panels to tell the unique story of the Carron Dams Local Nature Reserve.
- Westquarter Wildlife Group was awarded a grant to engage with local teenagers in hands-on work to improve the amenity and wildlife value of the Westquarter Glen.

7.16 While the CSGN Learning Outdoors Fund has now closed, these projects highlight the value and potential of helping the next generation connect with their environment.

[52] There is no Scotland-specific legal definition of a 'social enterprise', but the Voluntary Code of Practice for Social Enterprise in Scotland establishes five, generally understood, criteria for social enterprises and a system of values and behaviours. These are more stringent than the legal equivalents in England.

7.17 Priorities supporting education and lifelong learning include:

COM 3.1	Increase awareness of the role of woodlands as an outdoor learning resource and a resource for education, training and lifelong learning.
COM 3.2	Promote the development and delivery of woodland-based education programmes in Falkirk.
COM 3.3	Work with partners and stakeholders to help connect potential volunteers to suitable woodland projects and programmes.

Contribute to physical and mental health wellbeing

7.18 There is growing awareness of the value of woodlands, forests and other open greenspaces in providing opportunities for walking, cycling and horse riding, together with activities like orienteering and geocaching. The Woodland Trust's VisitWoods project has mapped a number of accessible woodlands across Falkirk, including Callendar Wood, Lionthorn Woods, and Roughcastle Community Woodland, with many of the woodlands including Core Paths, local paths and longer distance routes such as the John Muir Way.

7.19 Poor physical and mental health, and health inequality – as illustrated in Figure 7.1– are a feature of many of Falkirk's settlements. While Falkirk performs generally in line with the Scottish average in relation to many health conditions, for example heart disease and cancers, it has significantly higher levels of stroke and patients with mental health issues necessitating prescribed medication[53]. Unemployment levels are also above the Scottish average, compounding mental health issues in particular.

7.20 However, the value of woodland and outdoor activity and learning has already made a substantive difference to people with mental health issues, through the 'Branching Out' programme. This project engages clients referred on by mental health services in a 12-week programme of cooperative woodland-based conservation activities, 'bushcraft' and more general outdoor skills to help build self-esteem, confidence and social skills. The scheme in the Forth Valley area has been so successful it was awarded a Physical Activity and Health Alliance Award in April 2014.

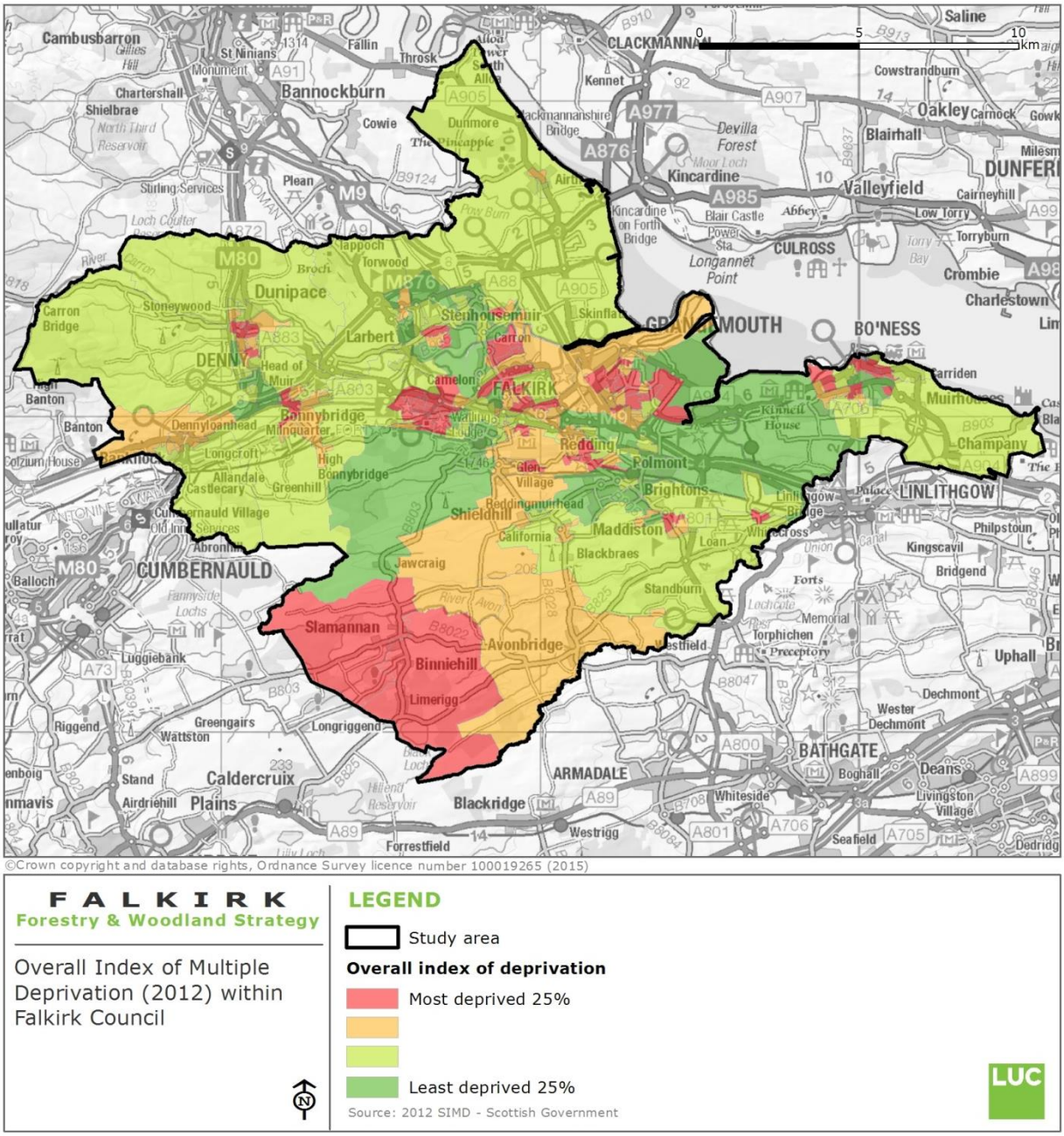
7.21 The Forth Valley Royal Hospital is set in impressive policy woodlands which, as well as providing an attractive and restful outlook for patients, are playing an active role in promoting recovery and improved health. Upgrading of access infrastructure and encouraging patients, visitors and local people alike to make use of the woods for exercise has transformed an under-used woodland into a major asset. Similarly, Falkirk Community Trust, with Paths for All, is delivering 'Step Forth' – a local health walks initiative to encourage people to get out and enjoy Falkirk's extensive path network in company – and improve their physical and mental wellbeing.

7.22 Priorities include:

COM 4.1	Promote the role of woodlands in providing a resource for physical activity, accessible to all parts of society close to where people live and work.
COM 4.2	Prioritise woodland-based projects designed to deliver physical and mental health benefits, particularly in areas with higher levels of deprivation and poorer health.
COM 4.3	Work to increase the appreciation and use of woodlands and forests by people from a wide range of socio-economic and ethnic backgrounds, and ensure that facilities and promotion are fully inclusive.

[53] Scottish Public Health Observatory health and wellbeing profile 2014

Figure 7.1 Relative deprivation in Falkirk (rest of Scotland data excluded)



Enhance local sense of place and promoting connections to the wider environment

7.23 Like many other parts of Central Scotland, Falkirk's industrial past has left a legacy of damaged and degraded land. Much of this is concentrated in and around the area's main settlements and coalfields, often compounding problems of social deprivation and poor health. Tackling these post-industrial landscapes is a key objective of the Central Scotland Green Network, and this Strategy provides a means of focusing environmental enhancement where it is needed most.

7.24 Approximately 9.5km^2 of the total land area in Falkirk is affected by quarries or landscape alterations. There are 946 individual quarries / landscape alterations, which comprise 503 historic quarries, 297 mining/quarrying (which may take the form of mine shafts, heaps, pits, etc.) and 146 heaps. Many of the heaps have been levelled for development and some sites have been successfully restored, for example the Woodland Trust at Roughcastle for countryside access, and

the former 28.7ha sand and gravel quarry at Bonnyfield to a Local Nature Reserve[54]. However, far more sites remain un-restored and examples of these are at Fogger Mountain near Avonbridge, Darnrigg Moss near Slamannan, and Waterslap near Airth. New native, softwood, mixed and energy woodlands can make an important contribution to restoring these landscapes by securing environmental improvement.

7.25 Access to high quality woodlands close to where people live can bring significant community benefits by providing places for recreation and learning both in rural areas and in and around towns. Community woodlands and Forestry Commission Scotland's WIAT schemes have played an important role in Falkirk in increasing public access to woodlands by creating or upgrading 29km of footpaths. The WIAT grants available in the Forestry Grant Scheme (WIAT; Public Access – Rural Woods; and Public Access – WIAT) should be fully utilised to continue to improve public access and the sustainable management of urban woodlands in Falkirk.

7.26 Development of woodlands close to where people live and work can help reinforce and, in places, restore a strong sense of place, supporting the placemaking agenda. A strong sense of place, together with more involved and empowered communities, will help engender local identity and a growing sense of pride in local communities. For example, the HELIX is creating a sense of place and enhancing community pride by transforming the quality of the environment of an under-used urban fringe landscape between Falkirk and Grangemouth.

7.27 Priorities include:

COM 5.1	Target management and woodland creation activity on areas of degraded environmental quality.
COM 5.2	Promote stronger links between local cultural activities and woodland environments, identifying opportunities for woodland-based activities, where possible.
COM 5.3	Work with partners and stakeholders to identify opportunities for enhanced cultural provision in and around Falkirk's woodlands.
COM 5.4	Work with partners, land managers and communities to ensure that new woodlands are designed to reflect and enhance local townscape and landscape character.

[54] In 2008, Bonnyfield, a former 28.7ha sand and gravel quarry, offering a variety of natural habitats is declared Falkirk's first Local Nature Reserve.

8 Spatial guidance

8.1 This section of the Strategy sets out the local priorities for woodland expansion and management by broad landscape 'zone.' It presents a breakdown of the potential for expansion in each zone and describes the principal opportunities and constraints that should be taken into account in new planting proposals.

Introduction

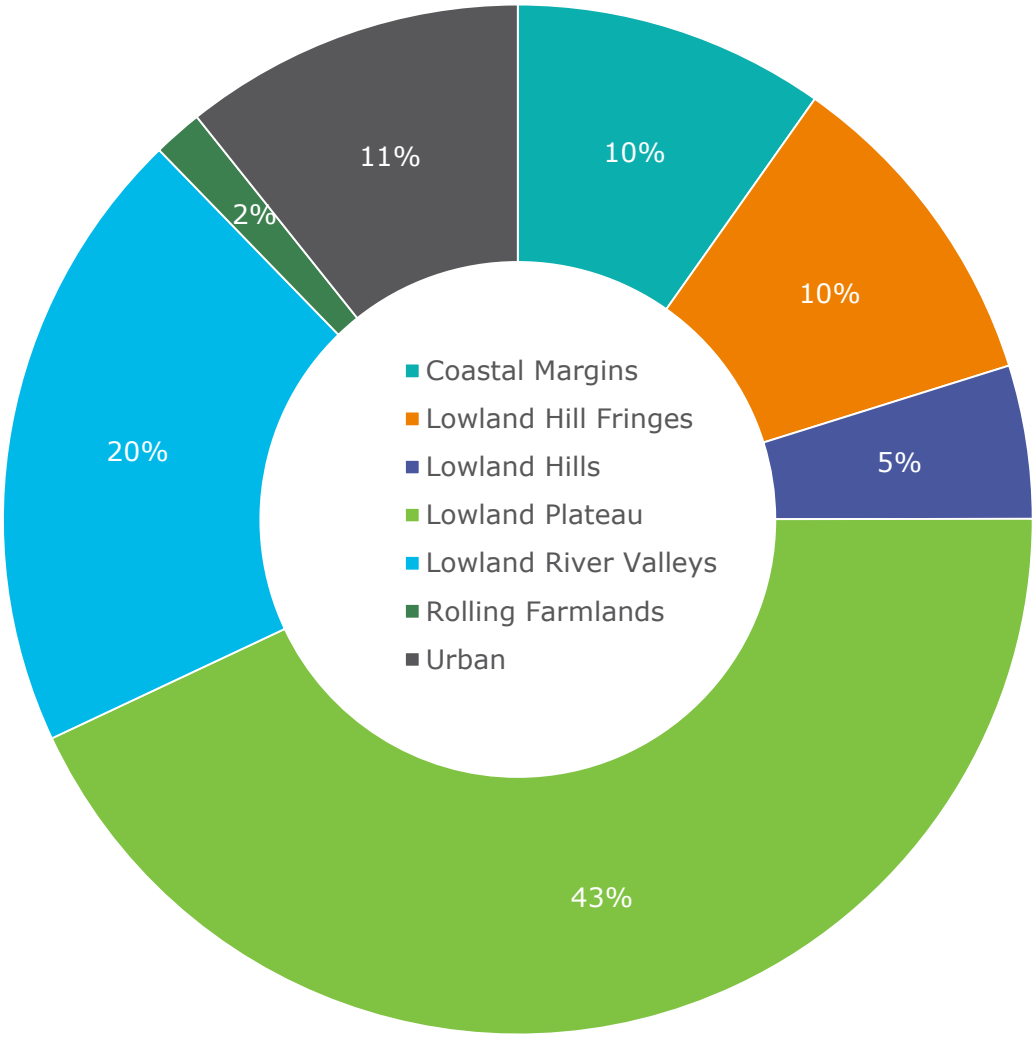
8.2 Adapting the revised landscape types developed for the Falkirk Council LCA and Landscape Designations Supplementary Guidance, the spatial framework adopts a landscape-led approach to interpreting the potential for expansion in each 'zone'. It aims to add contextual detail in relation to the opportunities and likely sensitivities affecting woodland expansion and management, and highlights areas where additional assessment or regulatory processes are likely to be required.

Spatial framework

8.3 The spatial framework, comprising seven separate landscape 'zones', are:

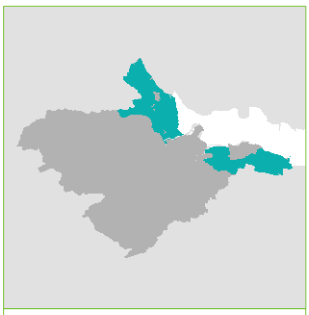
Zone name	Description	Woodland cover – key facts
Coastal Margins	The Carse of Forth, comprising drained moss-land and floodplain farming landscapes and large estate centres and designed landscapes.	512ha of woodland 10% of zone wooded 10% of Falkirk's woodland
Lowland Hill Fringes	Transitional, undulating topography rising from, and contrasting with, the flat carselands and the steeper and more elevated Lowland Hills zone. Generally small-medium scale landscapes, with ridges and intimate valleys.	543ha 18% of zone wooded 10% of Falkirk's woodland
Lowland Hills	The eastern end of the Campsie Fells/Kilsyth Hills, with a distinctive terraced landform.	252ha of woodland 32% of zone wooded 5% of Falkirk's woodland
Lowland Plateau	Large expanse of elevated, gently undulating plateau with landcover including extensive conifer woodland, open moorland, rough and improved grazing.	2,250ha of woodland 24% of zone wooded 43% of Falkirk's woodland
Lowland River Valleys	Deeply-incised and wooded valleys of the Avon and upper Carron; the gently rolling valleys of the lower Carron and the Bonny Water; and the Grangemouth-Falkirk fringe, including The Helix.	1,032ha of woodland 20% of zone wooded 20% of Falkirk's woodland
Rolling Farmlands	A relatively small triangle of rising, undulating farmland enclosed on two sides by the River Avon, and by the eastern boundary of urban Polmont.	81ha of woodland 12% of zone wooded 2% of Falkirk's woodland
Urban	Falkirk's settlements.	560ha of woodland 9% of zone wooded 11% of woodland

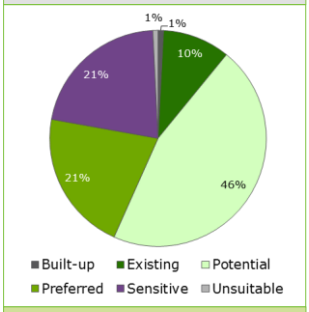
Diagram 8.1 Proportion of total woodland contained by each landscape zone



Detailed maps for each zone are provided as **Annex 1**, and should be examined in parallel with the text below.

Coastal margins





Zone location &

Breakdown of zone land categories

Overview

8.4 This zone comprises a broad swathe of land along the Firth of Forth, strongly influenced by its presence. Flat, low-lying and sparsely-settled carselands with a number of designed landscapes, including Dunmore House.

8.5 This zone is the main arable and mixed farming areas of Falkirk, comprising drained mossland, low-lying floodplain and rolling coastal hill farmland. Visually, much of the area is dominated by the Grangemouth complex.

Existing woodland resource

8.6 Woodland accounts for 10% of the area, and is composed principally of policy woodland associated with Dunmore House, Kinneil House and Carriden House; and of broadleaved woodland established on a large area of relict industrial peat extraction on Dunmore Moss.

8.7 The landscape, particularly in the rolling hills to the south of Bo'ness, has a strong historic structure derived from the planned 18th and 19th century field pattern.

Key issues

8.8 Local issues for woodland and forestry include:

- Strong horizontal landscapes and long views across the Carse potentially restrict the suitable design, scale and location of new woodland.
- High risk of coastal flooding for the low-lying strip of land on the seaward side of the raised beach formations in the western portion of the zone, and a substantial section of the carseland in the western portion of the zone.
    - Measures to adapt to the likely effects of climate change, including flood defence and managed realignment/retreat, are likely to affect future management options in this area including reducing the potential for woodland creation.
- Large area of 'potential' land on the carse between Skinflats and Airth, while lacking strategic constraints, is likely only to be suitable for smaller scale farm woodlands and shelter-belts. Larger-scale woodland is likely to be inappropriate as:
    - Fields form part of the supporting habitat for the Firth of Forth SPA population of overwintering geese and waders, and are vulnerable to cumulative loss of foraging area.
    - Larger-scale woodland likely to have adverse landscape and visual impacts – cutting off views across the Forth to Fife and Clackmannanshire.

  Similarly, the agricultural value of the land is likely to be such that larger-scale woodlands would not be economically advantageous.
- Conserving and enhancing the fabric and setting of key heritage assets, particularly the Antonine Wall should be a priority.
- Positively managing the extensive policy woodlands in the zone will help to conserve and maintain the character and quality of the zone.
- Large area of land at Kinneil Kerse safeguarded for potential expansion of Grangemouth petrochemicals complex – this area will not be developed for any other use, therefore it is potentially a valuable opportunity for temporary greening.
- A significant proportion of the zone is Green Belt (all land south of M876 in the western portion; majority of land west of the A706 in the eastern portion), making extensive development unlikely – although at least one area of Green Belt allocated for housing

development south of Bo'ness. Enhancing landscape values and improving the setting of settlements is the priority.

- The eastern portion of the zone is almost entirely 'prime quality agricultural land' (Class 2 or 3.1).
- Opportunities to contribute to sustainable water management in lower-lying and flood-prone areas.
- Supporting the sustainable use of the Cauldcoats and Champany smallholdings (where they are still worked).
- Supporting the delivery and enhancement of the John Muir Way long distance route that runs through the zone.

Local sensitivities

8.9 The presence of the Antonine Wall WHS is a key sensitivity, as the Scheduled Monument and its extensive Buffer Zone – included in the 'Sensitive' land category – will require careful consideration in planning new woodland to either side of Bo'ness. While there are no upstanding sections of the monument in this zone (with the exception of the fortlet presented to the public at Kinneil), its setting to the south is potentially vulnerable to the cumulative effects of inappropriate intrusions. This is particularly important as the setting is already somewhat compromised by the Grangemouth complex and the Avondale landfill site.

8.10 Much of the eastern portion of the zone is designated as a Special Landscape Area, meaning that regard must be had to the 'Special Qualities' defined for the area.

8.11 The presence of Dunmore Park and The Pineapple Inventory-designated garden and designed landscapes will require careful consideration in planning for new woodland. Particular consideration should be given to the value of views from Dunmore Park to the north east and the Firth of Forth.

8.12 Proximity to the Firth of Forth Special Protection Area (SPA) means that consideration should also be given to the likely significant effects of woodland creation on foraging habitat used by the SPA goose and wader populations. However, landscape and land value considerations are such that expansion of a scale or type that could generate adverse effects is unlikely.

Where likely significant effects on the SPA are identified, Habitats Regulations Appraisal (HRA) of proposals will be required.

Priorities for woodland management

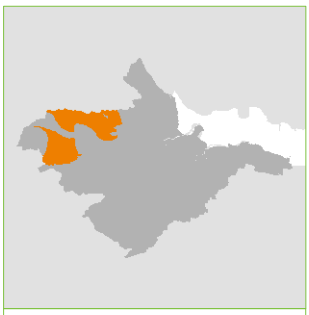
- Plan for and manage the replacement and succession of trees in designed landscapes, particularly specimen trees, to conserve and enhance the character and significance of these assets.
- Consider the potential to restructure and restock with native / mixed woodlands some of the areas of non-native conifer inappropriately inserted into designed landscapes[55].
- Restore, reinforce and potentially expand the characteristic rectilinear shelter-belts that form a key aspect of landscape structure.
- Build on successes of community-based initiatives, such as work at the Bo'ness and Kinneil foreshore LNR, to bring neglected woodlands into positive management and contribute to community development and engagement.
- Promote the potential of biomass to provide a source of income to make the positive management of existing farm and estate woodlands more economically attractive.

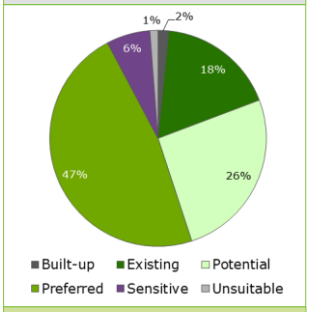
[55] Central Scotland Green Network Trust is already undertaking significant management activity on the Kinneil Estate, implementing a long-term forest plan.

Priorities for woodland expansion

- Potential for new woodlands along the M876 corridor to help soften the landscape effect of the elevated sections of motorway, contribute to mitigation of particulate emissions, and provide additional habitat connectivity.
- Potential for new buffer strips and riparian networks in farming areas to contribute to sustainable water management and improve water quality by reducing diffuse pollution loads.
- Support the development of suitable, likely relatively small-scale, farm woodlands to support diversification and develop on-farm biomass resources.
- Support arable agriculture in adapting to the effects of climate change.
- Housing allocations for the next phase of 'The Drum', and proposed Green Belt land release at Kinglass Farm (southeast Bo'ness) should be accompanied by high quality landscape schemes that preserve existing trees and woodland and create good habitat linkages.

Lowland Hill Fringes





Zone location &

Breakdown of zone land categories

Overview

8.13 Rising from the wide, flat carselands of the Firth of Forth and the lower Carron Valley towards the Kilsyth Hill, this zone is a transitional landscape of complex undulating topography, cut through with numerous small watercourses.

8.14 As a transitional landscape, land cover is mixed, with a generally small-scale, intimate mosaic of small fields, woodland and dispersed settlement.

Existing woodland resource

8.15 With woodland cover of around 18%, the zone has several relatively large woodlands, which comprise the bulk of the resource, along with more dispersed riparian and other native woodlands.

8.16 In the northern portion of the zone, the former policies of Larbert House, which now contain the Forth Valley Royal Hospital, and those of Glenbervie House, now the Glenbervie Golf Course, are important features on the fringes of Larbert/Stenhousemuir. Torwood, named for the nationally important Iron Age broch[56] at its heart (the titular 'tower'), is the single largest woodland in the area. Largely coniferous, this large wood is being gradually restructured to include a higher proportion of native broadleaved species.

8.17 In the southern section of the zone, to the west of Denny, the woodland resource is concentrated in the dense riparian network along the Castlerankine Burn.

Key issues

- Some smaller-scale hillside woodlands and shelter belts falling into disrepair, and potentially lacking resilience.
- Presence of good quality wetland, heath and grassland habitats – and the potential for improved networks – likely to reduce the area available to contribute to woodland habitat networks.
- Some issues with flooding in the lower catchments of watercourses in the zone.
- M80 / M876 corridor a significant source of air pollution, especially diesel-derived particulate emissions.
- Land allocated for housing development at Dennyloanhead, between existing settlement and the M80.
- Large area of vacant and derelict land above Banknock (former brickworks and abandoned agricultural land), with existing woodland networks on site.
- Major influence of electricity transmission infrastructure on landscape. New substations and re-routed overhead lines as a consequence of Beauly-Denny 400kV upgrades.
- Potential pressure for minerals and renewable energy development (consented 4-turbine wind farm at Todhill Farm).

Local sensitivities

8.18 While a substantial proportion of the zone is classified as being 'preferred' for new woodland, the setting of heritage assets will be a consideration in a number of locations, notably: Torwood Castle and the Carr's Hill and Braes hillforts. Torwood/Tappoch broch is nationally important, but

[56] Broch: large, stone-built Iron Age roundhouse with complex and distinctive architectural features found only in Scotland. Torwood/Tappoch broch is one of around 16 lowland examples, and one of three in the Forth Valley, the majority being located in the Atlantic north and west of Scotland.

is currently under-appreciated and would benefit from more active management in its woodland setting.

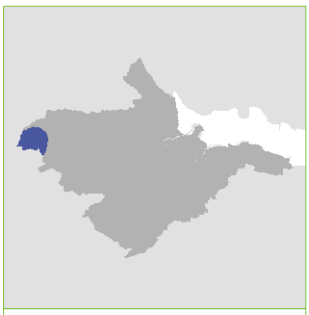
Priorities for woodland management

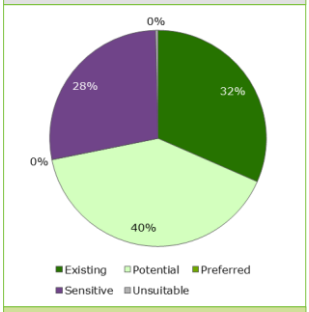
- Continuing restructuring and thinning of existing conifer woodland to improve economic value, appearance, biodiversity value and timber quality.
- Bringing neglected smaller woodlands into positive management to help provide additional income through biomass and timber.
- Enhance the conservation and setting of heritage assets in woodland through restructuring and design of woodlands, creating greater opportunities for public access and understanding.
- Promoting positive management of designed landscapes and policy woodlands to ensure long-term resilience and to secure the character and significance of the assets – as well as providing a range of public benefits.

Priorities for woodland expansion

- Optimising native woodland networks to contribute to habitat connectivity.
- Expanding woodland in transport corridors to reduce air pollution issues.
- New farm woodlands to contribute to diversification on more marginal ground.
- New woodlands to help safeguard water quality in the catchments for the Drumbowie and Little Denny reservoirs.
- Delivering new high quality woodland in parallel with development of allocated sites and the Banknock and Haggs SIRR.
- Encourage new well-designed productive woodlands.

Lowland Hills





Zone location &

Breakdown of zone land categories

Overview

8.19 The second-smallest of the Strategy's zones, the Lowland Hills comprise the easternmost section of the Campsie Fells / Kilsyth Hills. The volcanic hills provide a distinctive, open and rugged backdrop to the lower-lying areas of western Falkirk.

Existing woodland resource

8.20 Two large blocks of conifer forest on Denny Muir account for virtually all of the zone's woodland resource. The remainder comprises small, geometric conifer woodland and fragmented minor riparian networks, which are generally too small / sparse to be recorded in FCS inventory data.

Key issues

- Hard-edged and unnatural appearance of large-scale conifer blocks.
- Prominent skyline location of much of the zone, increasing landscape sensitivity – along with the Denny Hills Special Landscape Area.
- Exposed location potentially limiting species choice and establishment options.
- Denny Muir SSSI; designated for blanket bog, basin fen and acid grassland, therefore highly sensitive to inappropriate woodland.

Local sensitivities

8.21 The landscape of this zone is particularly sensitive, given its high visibility and unique character within Falkirk. It is therefore designated as a Special Landscape Area. Restructuring of existing woodland, and any expansion, would therefore need to observe the highest design quality.

8.22 The presence of significant open ground and wetland habitat, contained within the Denny Muir SSSI, means that new woodland on the fringes of the designated area would need to be designed to ensure that habitat connectivity and hydrological considerations were given proper consideration.

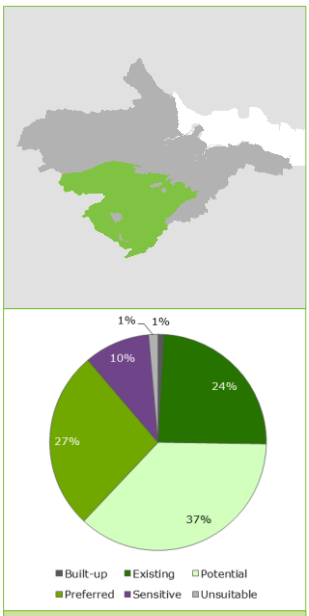
Priorities for woodland management

- Restructuring and thinning existing conifer woodlands to improve their economic value and timber quality will also contribute towards improving their appearance in this sensitive landscape.
- Bringing small, neglected blocks of woodland and shelterbelts into positive management.
- Consideration of removal of small blocks of conifer within the Denny Muir SSSI where these have an adverse effect on the integrity of the site.
- Managing and reinforcing riparian networks, field trees and hedgerows.

Priorities for woodland expansion

- Opportunities for new larger-scale woodland are likely to be limited, given landscape and habitat constraints – however, excellent growing conditions and good access to market, makes the right site in this location very viable to achieve strong returns from softwood forests.
- Expanding native woodlands in riparian corridors.
- Developing small-scale farm woodlands and shelter woods around steadings.

Lowland Plateau



Zone location &

Breakdown of zone land categories

Overview

8.23 Comprising a little under a third of Falkirk's land area, the Lowland Plateau is a large expanse of gently undulating pastoral farmland, moorland, peatland and planted woodlands.

8.24 The size of the area means that, within the overall landscape type, there is substantial local variation. Some parts exhibit a rather more upland and remote character, while others are more intimate with more complex topography and woodland creating a sense of enclosure. The northern portion of the zone has a rigidly-planned grid field pattern that imposes a strong, regular character. The industrial heritage and importance of the zone is visible in many areas, as relics of mine-workings, opencast, peat extraction and quarrying are widespread, along with traditional mining villages straddling minor roads.

Existing woodland resource

8.25 Almost half of the existing woodland resource is made up of planted conifer woodlands on the northern farmland area, and the Slamannan Plateau to the south of the zone. Native woodlands are generally small and fragmented, with some exceptions around the edges of the zone.

8.26 Farm woodlands and regular shelterbelts are a feature of the planned landscape in the north of the zone, with more organic forms prevalent in the south. The central portion of the zone is more open, elevated and has a stronger open moorland character with noticeably fewer woodlands.

Key issues

- Excellent growing conditions, land type and good access to market, makes the Lowland Plateau a prime location to grow well-designed sustainable softwood forests that can offer sound economics for the local economy and Scotland more generally.
- Poorly-designed conifer forests from the 1970s, often with hard edges, can dominate parts of the landscape, particularly in rising views.
- Zone contains the headwaters of the River Avon and the Westquarter Burn, both of which are prone to flooding in their lower reaches.
- Significant areas of peat and high carbon soils, including areas of former peat extraction, including the Darnrig Moss and Howierigg Muir SSSIs.
- Existing softwood forests on degraded peatland.
    - Supporting land managers in exploring options for subsequent rotations that could deliver enhanced public and environmental benefits will be a priority.
- Continued development pressure for wind energy developments, potentially increasing the threat of further woodland removal.
    - Only 'Area of Search' defined in Falkirk Council Spatial Framework and Guidance for Wind Energy Development SPG is located on the southern edge of the zone and covers mainly forest land.
- Fragmentation of woodland habitats.
- Presence of Slamannan Plateau SPA, and significant area of supporting habitat used by the taiga bean goose population (SPA classified as 'sensitive', supporting habitat within 'potential').

- Substantial area covered by Special Landscape Area designation (Slamannan Plateau / Avon Valley SLA[57]).
- Development pressure for settlement expansion on fringes of Polmont and Redding.
- Potential for extractive industry development, with opportunities for woodland as an end use.

Local sensitivities

8.27 The key sensitivity that requires careful consideration in planning new woodland on the Slamannan Plateau is the SPA supporting habitat (see Figure 8.1). While there is considerable potential for well-planned new woodland in the area, the habitat – and the SPA population of taiga bean geese – is vulnerable to cumulative loss or degradation. It is therefore likely that any larger-scale woodland creation proposals within this area would be subject to Habitats Regulations Appraisal (HRA) to identify any likely significant effects on the qualifying features and conservation objectives of the SPA. Each case will be judged on its own merits; however, smaller-scale proposals, particularly farm woodlands, are likely to be the most appropriate means of expansion within the area of supporting habitat.

8.28 Peatland is also likely to be a key consideration in this zone, particularly on the higher central portion around Gardrum Moss, including Darnrig Moss SSSI. Although much of this peatland is heavily degraded as a consequence of historical extraction, it is understood that there is potential to achieve positive results in restoring this important habitat and carbon store.

8.29 Proposals for woodland will require careful consideration in the areas of preferred and potential woodland expansion to the north of this zone as they have the potential to impact on the setting of the Antonine Wall WHS and the Falkirk II Inventory battlefield.

8.30 The landscapes of the southern portion of the zone are covered by Special Landscape Area designation, which may restrict the type and scale of woodland that could be considered appropriate. However, the landform and landscape structure are such that well planned and managed woodland could readily be accommodated, particularly where this expands existing patterns of policy and farm woodlands and adds to riparian networks.

Priorities for woodland management

- Continued restructuring of larger-scale conifer woodlands as part of sound silvicultural practice to improve landscape and biodiversity values, and contribute to improved timber quality and continuity of supply.
- Explore opportunities for Continuous Cover Forestry (CCF) on suitable, less exposed sites to contribute to carbon management and climate resilience.
- Bring neglected farm woodlands, shelterbelts and riparian corridors into positive management, potentially using biomass and timber production as a source of income.
- Substantial areas of woodland on the fringes of Falkirk, Polmont and Maddiston would be eligible for future Woods In and Around Towns (WIAT) funding, delivered through the Woodland Improvement Grant (WIG) and the Sustainable Management of Forests (SMF) funds in the SRDP 2014-2020.

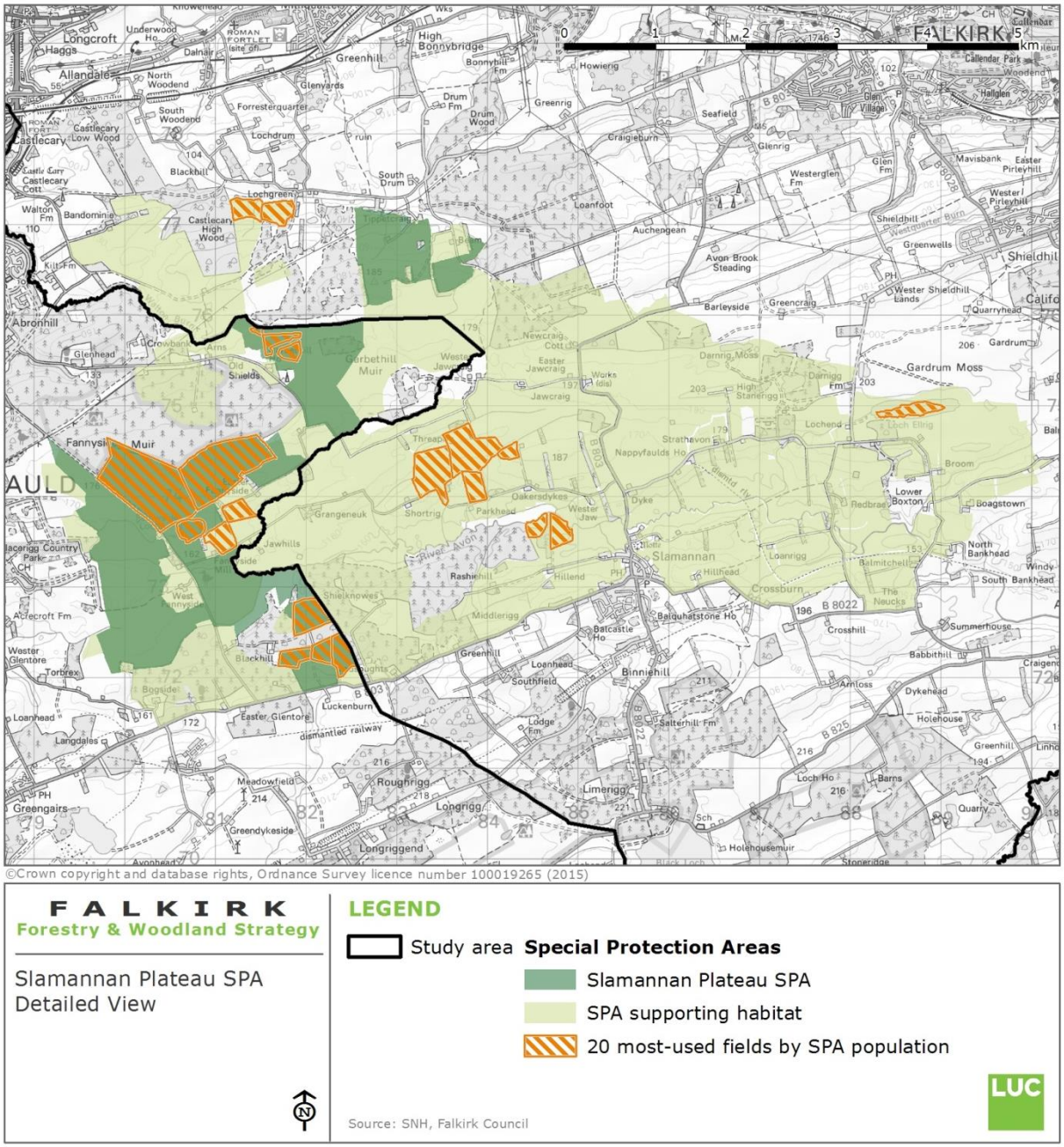
Priorities for woodland expansion

- New native woodlands and reinforcement / expansion of existing linear features to address habitat fragmentation.
- Potential for new or expanded mixed and conifer woodlands, but good planning and landscape design will be essential.
- Developing farm and estate woodlands to contribute to diversification.

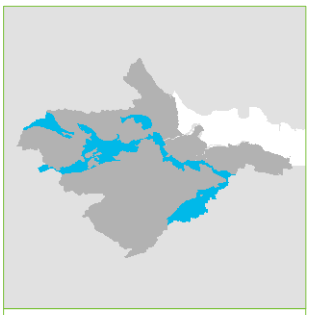
[57] Currently 'Areas of Great Landscape Value', per the Falkirk Local Plan 2010; Landscape Character Assessment and citations reviewed for Falkirk Proposed Local Development Plan and set out in Proposed Supplementary Guidance SG09 Landscape Character Assessment & Landscape Designations

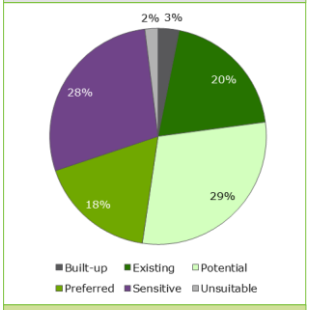
- New woodlands contributing to sustainable water management, aiding downstream flood alleviation by increasing catchment response times, improving infiltration, direct absorption of water by trees and intercepting and slowing runoff during severe weather events.
- Appropriate planting in the headwaters of the River Avon and Westquarter Burn to assist in sustainable flood management.
- Encourage new, well-designed and located productive woodland to contribute to meeting the demand of the processing sector.

Figure 8.1 Detailed location of Slamannan Plateau SPA and supporting habitat



Lowland River Valleys





Zone location &

Breakdown of zone land categories

Overview

8.31 Falkirk has three main rivers running through it: the Avon, the Carron and the Bonny Water; the latter being significantly smaller and a tributary of the Carron.

8.32 Rising on the moorlands of the Slamannan Plateau, below Avonbridge the River Avon has carved out a distinctive, deep and heavily-wooded gorge. For much of its middle reaches, it forms a strong and easily legible boundary between the Falkirk and West Lothian Council areas. Between Whitecross and Linlithgow, it widens into a gently rolling landscape of good quality arable land. Just north of Linlithgow, it meanders to the northwest where the gorge deepens again as it cuts through softer sediments before entering the Grangemouth industrial complex at its tidal limit.

8.33 The Carron rises in the central Campsie Fells, passing through the Carron Valley Forest – where it is dammed at the Carron Valley Reservoir – and flows around the north edge of the Lowland Hills zone. Here, it forms a steep-sided and densely-wooded gorge. Below Denny, the valley widens and is joined by the Bonny Water in forming a wide, flat floodplain that maintains the separation between Falkirk and Stenhousemuir – and hence is a key component of Falkirk's Green Belt. As it narrows between the settlements, it passes through an area of rich industrial heritage – now of considerable habitat and community value, having been reclaimed and regenerated. It reaches its tidal limit at the north end of The Helix, now a nationally important landmark due to the presence of the Kelpies. The zone also takes in The Helix Park and the Green Belt between Polmont, Westquarter, Falkirk and Grangemouth.

Existing woodland resource

8.34 The majority of the zone's resource is native broadleaved woodland, concentrated in river gorges. Consequently, much of this asset is classed as semi-natural and has, because of topography, remained relatively undisturbed and is of significant biodiversity value.

8.35 Major environmental enhancement works, connected with the Millennium Link, Falkirk Wheel and The Helix have delivered substantial areas of new, mainly broadleaved woodland on former industrial land. In the Avon Valley, policy and designed landscape woodlands are a key feature, relating to a number of former estate centres lining the valley.

Key issues

- This zone holds many of Falkirk's key heritage assets: sections of the Antonine Wall; an extensive complex of multi-period Roman forts and camps at Camelon; the Forth and Clyde and the Union Canal (including the Avon Aqueduct); and, the Inventory Battlefields of Linlithgow Bridge and Kilsyth. It is therefore highly sensitive to poorly-planned change.
- The zone is by far the most heavily-wooded, and therefore management of existing resources is an overarching priority.
- Key opportunities to build on the success of The Helix project, Abbotshaugh Community Woodland and the 'Communities along the Carron' initiative to maintain momentum in woodland-based community development.
- Housing land allocations on the edge of the Green Belt and the edge of the Carron floodplain, necessitating careful landscaping – and creating opportunities for new woodland.
- Significant areas at risk of flooding, and opportunities for new woodland to contribute to sustainable water management.

Local sensitivities

8.36 The Antonine Wall Scheduled Monument and World Heritage Site, and its extensive Buffer Zone, are critical considerations in planning and managing woodland in the area. No new woodland on the asset itself will be supported – and proposals would be strongly resisted by Falkirk Council and Historic Scotland. However, trees and woodland are an important aspect of the character of several key sections of the Wall in this zone, for example at Rough Castle and Seabegs Wood.

8.37 Parts of the Avon and Carron gorges are designated SSSI for their woodlands, and therefore careful management of key features will be a priority.

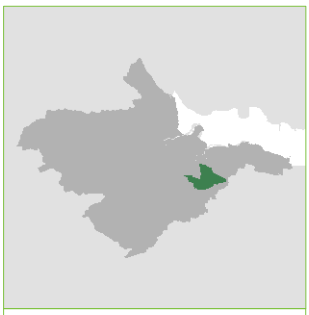
Priorities for woodland management

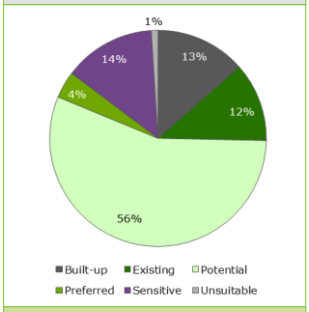
- Conserving and enhancing the biodiversity value of riparian woodlands.
- Maintaining and enhancing the character and heritage significance of designed landscape and policy woodlands.
- Conserving and enhancing the setting of the Antonine Wall WHS (e.g. maintaining and improving longer views to other sections of the Wall, and key relationships with wider landscape features).
- Contributing to climate resilience, particularly sustainable water management in the upper catchments.

Priorities for woodland expansion

- Reinforcing and expanding riparian networks to further enhance woodland habitat connectivity, particularly adjacent to SSSIs and locally designated sites (SINCs).
- Contributing to sustainable water and flood management, particularly in the upper catchments of flood-prone watercourses and their tributaries.
- Ensuring that high quality woodland is a key component of new development coming forward in the zone – particularly contributing to sustainable water management.
- New farm woodlands around the Avon to contribute to enhancement of water quality to contribute to flood and fisheries management (through reductions in peak flows and diffuse pollution levels).
- Ongoing development of The Helix project through further well-designed planting.

Rolling Farmlands





Zone location &

Breakdown of zone land categories

Overview

8.38 The smallest of the landscape zones, the Rolling Farmlands are an approximate triangle of land enclosed on two sides by a bend in the Avon Valley and the eastern edge of Polmont. It is a hummocky, highly varied area of small-scale, complex topography and land cover, encompassing a range of heritage assets, modern waste management and industrial development and key transport corridors (the M9, A801, A803, the Edinburgh-Glasgow main rail line and the Union Canal).

Existing woodland resource

8.39 The zone is sparsely-wooded, with current cover derived principally from former policy and designed landscape woodland connected with former estate centres at Lathallan House, The Haining/Parkshall and the long-established woodland surrounding the ruins of Almond Castle.

8.40 Other fragmentary native and mixed woodlands are located along transport corridors, and the routes of former mineral railways crossing the zone.

Key issues

- Antonine Wall WHS Buffer Zone encompasses the whole zone north of the M9, making this area sensitive to change.
- The visual and sensory influence of the Avondale waste management site, necessitating ongoing mitigation as the site evolves – including opportunities for new woodland to contribute to screening and eventual restoration.
- Extensive industrial development and land allocations at Whitecross Industrial Park, creating opportunities for new woodland to help enhance environmental quality and reduce visual effects.
- Significant housing land allocations at Rumford/Maddiston[58], and for economic development at Gilston (not in the zone, but landscaping may cross over) – opportunities to enhance the setting of new and existing development.
- Green Belt north of the main Edinburgh-Glasgow rail line, but strong development pressure to the south.
- Heritage assets at risk: dereliction of historic buildings and designed landscapes – including under-management of woodland assets.
- Zone is the 'Gateway to Falkirk' on major recreational and transport routes.

Local sensitivities

- The presence of the Antonine Wall and its Buffer Zone are a key consideration for new woodland in the northern portion of the zone. Maintaining visibility along the route of the Wall, and views to the north and south (despite the influence of the Grangemouth complex) are important and should be preserved. This section of the Wall sits on top of raised beach formations and has a commanding view across the Forth.
- The zone's designed landscapes are generally in poor condition, along with the associated historic buildings – several of which are on the Buildings at Risk Register. Any sustainable onward use of these sites, such as the consented redevelopment of Lathallan House, could be a key opportunity to restore the character and protect the significance of these assets, and could deliver high quality new woodland in the process.

[58] Carried forward from previous Local Plan; significant area built out at time of writing (August 2014).

- The Union Canal corridor, a nationally important heritage asset, is a key opportunity as an important recreational route for walkers and cyclists.

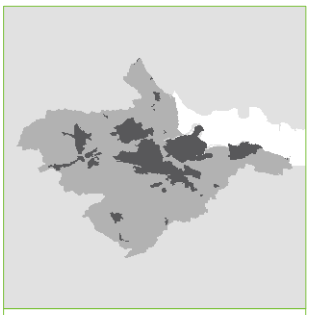
Priorities for woodland management

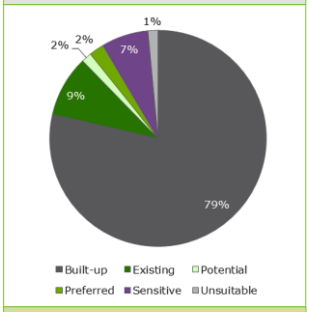
- Bringing under-managed designed landscape woodlands into positive management.
- Encourage the regeneration of wider policy woodlands.

Priorities for woodland expansion

- Creating new habitat links to the Muiravonside and Avon Gorge woodlands.
- Targeted enhancement of Union Canal corridor.
- Creating new habitat links to the Avon Gorge SSSI as part of the Avondale landfill restoration process.
- Support the reinstatement of designed landscapes and policy woodlands
- Support well-designed farm woodlands that fit well with the character of the area.

Urban





Zone location &

Breakdown of zone land categories

Overview

8.41 Around 20% of Falkirk's land area is developed. Nevertheless, this urban area contains 11% of all of the Council area's woodlands – underlining the importance of this resource to communities, the environment and the economy alike.

Actual tree cover will be slightly higher as the National Forest Inventory dataset used to derive the Strategy's statistics only records woodland over 0.5ha in area, with a minimum width of 20m and at least 20% canopy cover, or the capacity to achieve this. Consequently, Falkirk's settlements – and the town of Falkirk in particular – feel much 'greener' that this data suggests.

Existing woodland resource

8.42 The urban woodland is concentrated in large parks and greenspaces, with Callendar Park alone accounting for over 30% (c.133ha) of the resource.

8.43 Composed largely of native broadleaved species, Falkirk's urban woodlands are key habitat resources, with a significant proportion of woods being classed as semi-natural.

8.44 While the dense urban form of the historic cores of Falkirk and Bo'ness contain relatively few trees, much of the area's more recent development has designed in generous green spaces, of which woodland is often an important component.

8.45 Although not included in the spatial data, street trees and more open woodlands also make an important contribution to character, as well as assisting in the mitigation of air pollution and local climate control.

Key issues

- Balancing optimal management for biodiversity enhancement and community use.
- Maintaining the WIAT momentum built-up over the past decade.
- Contributing to local climate change adaptation.
- Ensuring new development contributes to the green network, including through remediation of vacant and derelict land.
- Flood risk in the Avon, Carron, Bonny Water and Westquarter Burn catchments.
- Need to maintain the momentum of the Falkirk Greenspace Initiative and deliver CSGN aims.
- Need to support development aspirations and improving the character and quality of local environments to promote investment.
- Fragmentation of woodland habitat resources, with north-south connectivity through urban Falkirk a particular issue.

Local sensitivities

8.46 The Antonine Wall runs through the heart of Falkirk, with upstanding sections in woodland in Callendar Park and at Watling Lodge, Tamfourhill. Several areas of woodland in urban areas are subject to local and national designations for their natural heritage value. This highlights the importance of positive management and promoting links wherever possible, as well as the need to manage visitor pressure on sensitive species and habitats.

Priorities for woodland management

- Targeting Council-owned woodland not currently in positive management for Forestry Grant Scheme funding (e.g. around Larbert, and Deanburn Glen in Bo'ness).

- Identifying under-managed woodland in private ownership and promoting partnership working to bring them into positive management.
- Building on opportunities for community involvement in woodland planning and management and to promote the active use of woodlands by communities for health, education and training.

Priorities for woodland expansion

8.47 As the boundaries of the urban area are tightly drawn, the strategic opportunities for woodland creation appear to be relatively limited. This is partly a product of the resolution of available spatial data.

8.48 However, there is significant potential, even on land that has other existing uses. For example:

- Within parks and green spaces, there may be opportunities to increase woodland cover by converting under-used or problematic amenity grassland to trees. In addition to conveying a range of benefits, it can help to reduce long-term maintenance costs – as well as providing a potential biomass resource to supplement income.
- Reinforcing woodland networks in transport corridors, informed by Integrated Habitat Network data, can help to provide connections.
- Working with owners of vacant sites to develop temporary greening solutions, particularly where longer-term core elements can be developed that could remain in place when a sustainable use can be found.
- Promoting the establishment of high quality trees and woodland, as part of a wider green infrastructure plan, in advance of development of larger sites.

Appendix 1

Collated aims, objectives and priorities

EXPAND AND MANAGE	
Code	**Priority**
ENCOURAGE THE CREATION OF WELL-DESIGNED WOODLANDS OF AN APPROPRIATE NATURE, SCALE AND COMPOSITION TO ENABLE THE DELIVERY OF MULTIPLE BENEFITS	
EM 1.1	Support the delivery of approximately 850ha of new woodlands over the 40-year lifespan of the Strategy.
EM 1.2	Promote a strong multi-benefit approach to woodland planning, design and management in Falkirk.
EM 1.3	Ensure that proposals for woodland creation support the aims and objectives of the Falkirk Forestry and Woodland Strategy.
PROMOTE IMPROVED MANAGEMENT OF FALKIRK'S WOODLAND RESOURCE	
EM 2.1	Promote restructuring of existing softwood forests to contribute to improved economic, social and environmental values.
EM 2.2	Continue to promote opportunities to bring woodlands into positive management, prioritising assets close to where people live and where they can make an enhanced contribution to the character, quality and attractiveness of new and existing places.
EM 2.3	Highlight the potential economic returns of improved woodland management as a means of driving investment in existing resources.
EM 2.4	Promote the adoption of Lower Impact Silvicultural Systems / Continuous Cover management approaches on suitable sites to help improve climate resilience, stand dynamics, timber values and contribution to landscape and biodiversity values.
PROMOTE HIGH STANDARDS OF WOODLAND DESIGN IN NEW AND EXISTING WOODLANDS	
EM 3.1	Ensuring that proposals for woodland creation are designed to optimise the delivery of multiple benefits and make a positive contribution to local landscapes.
EM 3.2	Encourage land managers and their Agents to engage and consult widely in the development and delivery of forest plans and planting proposals.
EM 3.3	Highlight the importance of good design in helping to unlock the potential for woodland expansion in areas of more sensitive landscape.

EXPAND AND MANAGE	
CONTRIBUTE TOWARDS THE DELIVERY OF 10,000HA OF WOODLAND EXPANSION PER YEAR NATIONALLY TO HELP SCOTLAND FULFIL ITS AMBITIOUS CO2 REDUCTION COMMITMENTS	
EM 4.1	Ensuring that the carbon sequestration potential of woodland in Falkirk is optimised through high quality design and management.
EM 4.2	Ensuring that woodlands established principally for carbon sequestration meet the requirements of UKFS, and contribute to the objectives of the Falkirk Forestry and Woodland Strategy.
EM 4.3	Promoting the value of Woodland Carbon Code accreditation for land managers seeking to participate in carbon sequestration projects.
EM 4.4	Collecting data and monitoring the contribution of woodlands in Falkirk to Scotland's emissions reduction targets.
CLIMATE CHANGE	
Code	**Priority**
CONTRIBUTING TO EMISSIONS REDUCTION	
CC 1.1	Support the development of energy-efficiency measures in Falkirk's forestry and timber sectors.
CC 1.2	Continue to promote the adoption of wood co-products as sources of on-site and grid heat and power for timber processors and allied industries.
CC 1.3	Promote the use and adoption of fuel-efficient plant and machinery, making links between suppliers, existing users and local contractors to highlight the benefits.
	Priorities in relation to expanding markets for timber and biomass are covered in the Economy section of the Strategy.
CC 1.4	Ensure that reductions in woodland cover arising from restructuring and development are compensated within Falkirk wherever possible.
CC 1.5	Where woodland removal in connection with development is proposed, and meets the requirements of the Scottish Government Policy, work with developers to ensure that compensatory planting is delivered in line with the priorities and spatial guidance provided by this Strategy.
CC 1.6	Promote the carbon benefits of continuous cover forestry on suitable sites.
CC 1.7	Consider the potential for restoration of peatland habitat as part of forest restructuring proposals.
ENCOURAGING ADAPTATION TO THE PREDICTED EFFECTS OF CLIMATE CHANGE	
CC 2.1	Work with agencies, stakeholders and the industry to ensure that updates to research, advice and guidance is appropriately interpreted and disseminated to ensure that Falkirk's new and existing woodlands are 'climate-ready'.

CC 2.2	Encourage partnership working between agencies, the industry, user groups and communities to ensure that opportunities for 'citizen science' and reporting of tree health and pathogen activity are optimised.
CC 2.3	Promote the climate resilience benefits of continuous cover forestry on suitable sites. [Link to CC 1.6 / EM 2.4]
CC 2.4	Promote the potential contribution of woodland to sustainable flood management in Falkirk's *Potentially Vulnerable Areas.*
CC 2.5	Work with partners and stakeholders to understand and explore the opportunities for woodland in catchment management.
CC 2.6	Work with partners and land managers to highlight the importance and value of designing habitat connectivity into proposals for woodland expansion.
CC 2.7	Promote the use of Integrated Habitat Network data in parallel with this Strategy to inform land management decisions.
CC 2.8	Promote survey and succession planning for gardens, designed landscapes and policy woodland to maintain their heritage values and significance.
CC 2.9	Work with local authority colleagues to ensure that parks, open space and street trees are managed to ensure they are resilient to predicted changes.
ENVIRONMENT	
Code	**Priority**
IMPROVE THE CONDITION AND RESILIENCE OF BIODIVERSITY	
ENV 1.1	Promote woodland creation to build strategic habitat network links to between core areas.
ENV 1.2	Promote partnership working between land managers to ensure 'joined-up' management of linear woodlands.
ENV 1.3	Promote partnership working between managers to ensure coordinated delivery of efforts to tackle non-native invasive species.
ENV 1.4	Work with land and estate managers to highlight the potential value of PAWS sites and highlight the benefits of incremental restoration to native woodland.
ENV 1.5	Work with agency partners and neighbouring authorities to deliver opportunities for cross-boundary enhancement of woodland habitat networks.
ENV 1.6	Promote the potential opportunities for woodland habitats to contribute to the greening measures contained within the SRDP.
ENV 1.7	Promote the positive management and expansion of International and UK Biodiversity Action Plan priority woodland habitats, including semi-natural ancient woodlands.
ENV 1.8	Support catchment wide projects to identify, manage and eradicate invasive non-native species where they

	coincide with woodland.
CONTRIBUTE TO THE DELIVERY OF THE CENTRAL SCOTLAND GREEN NETWORK	
ENV 2.1	Highlight and promote the benefits of participation in CSGN, and the availability of funding, to potential private sector partners in both urban and rural environments.
ENV 2.2	Work with partners and stakeholder to identify the potential for cross-boundary opportunities and delivery mechanisms.
ENV 2.3	Promote the importance of, and opportunities for, rural business and land management in providing the destinations that make the green network function.
IMPROVE WOODLANDS' CONTRIBUTION TO THE CONSERVATION AND MANAGEMENT OF ECOSYSTEM FUNCTIONS AND SERVICES	
ENV 3.1	Promote the benefits of riparian woodland in reducing rural diffuse pollution and contributing to enhanced water quality.
ENV 3.2	Promote the benefits of new woodland in addressing air quality issues.
ENV 3.3	Highlight the value of farm woodland and shelter belts for improving soil quality and resilience.
ENV 3.4	Work with land owners and developers to identify opportunities for woodland as part of brownfield remediation programmes.
ENV 3.5	Work with land owners and managers to bring forward opportunities for temporary greening to improve the quality of degraded places and help to attract investment.
CONTRIBUTE TO THE CONSERVATION, ENHANCEMENT AND UNDERSTANDING OF FALKIRK'S VALUED NATURAL HERITAGE AND HISTORIC ENVIRONMENT	
ENV 4.1	Support the ongoing restructuring of conifer woodlands to enhance landscape character and quality.
ENV 4.2	Encourage the positive management of trees, woodlands and shelter belts in recognition of their contribution to landscape structure and distinctiveness.
ENV 4.3	Promote the role of trees and woodland in enhancing the character and quality of degraded or damaged landscapes.
ENV 4.4	Promote the conservation and enhancement of trees and woodlands that contribute to the Special Qualities of Falkirk's designated landscapes.
ENV 4.5	Promote woodland restructuring as an opportunity to improve the setting, access to and interpretation of, heritage assets.
ENV 4.6	Promote understanding and awareness of trees and woodlands as part of the historic environment.
ENV 4.7	Work with partners to promote and present the historic environment and cultural heritage of Falkirk across the CSGN.
ENV 4.8	Encourage positive management of trees and woodlands within historic gardens and designed landscapes, including succession planning and selective replanting to conserve the character and significance of assets, and improve their resilience to the effects of climate change.

ECONOMY	
Code	**Priority**
PROMOTE FALKIRK'S WOODLANDS AS VISITOR DESTINATIONS AND ENCOURAGE THE GROWTH OF WOODLAND-BASED TOURISM AND RECREATION	
EC 1.1	Work with stakeholders to understand the visitor profile of woodland-based attractions and develop a coordinated approach to increasing footfall, visit duration and total spend.
EC 1.2	Promote woodland-based tourism and recreation, including joint marketing campaigns with other visitor attractions, tourism operators and accommodation providers.
EC 1.3	Encourage the development of small scale ecotourism enterprises linked to woodlands and forests.
EC 1.4	Develop and publicise opportunities for active outdoor recreation in woodlands and forests, including mountain-biking, walking and activities such as orienteering.
SUPPORT THE SUSTAINABLE DEVELOPMENT OF FALKIRK'S FOREST INDUSTRIES	
EC 2.1	Sustain consistent long-term timber supplies and industry investment, through planting of new productive forest areas – especially those containing high percentages of 'whitewood' tree species.
EC 2.2	Work with the forestry sector to develop and increase the competitiveness of the Falkirk timber manufacturing, processing and distribution businesses, with a focus on provenance and sustainability.
EC 2.3	Encourage the use of Falkirk-grown timber for manufacturing purposes (construction materials, furniture, and fencing).
EC 2.4	Promote sustainable silvicultural practices, supply chain development and markets to grow the hardwood timber sector in Falkirk.
EC 2.5	Support the use and development of machinery rings to provide specialist equipment to improve the attractiveness and viability of farm woodland.
EC 2.6	Promote the development of forest plans as a tool for improving timber quality and output while delivering more sustainable woodland management.
EC 2.7	Highlight forestry's economic success and promote the opportunities to encourage further inward investment to help the sector grow.
EC 2.8	Facilitate engagement between the timber sector and the planning authority to ensure that appropriate land allocations and policy frameworks are in place to support the development of new and enhanced processing infrastructure.
EC 2.9	Establish and monitor regional demand for wood fibre from the biomass sector to understand effects on local markets.
EC 2.10	Encourage management of existing woodland for woodfuel by highlighting the financial benefits and sharing best practice among land owners and managers.
EC 2.11	Work with partners, stakeholders and land owners to identify vacant, derelict, stalled and safeguarded sites with potential for biomass planting as part of temporary greening solutions.
EC 2.12	Support appropriate planting for biomass, in line with the Falkirk Forestry and Woodland Strategy spatial guidance.

EC 2.13	Facilitate engagement between the biomass sector and the planning authority to ensure that future processing capacity can be delivered in the right locations.
EC 2.14	Encourage the wider use of woodfuel in appropriate domestic and smaller-scale commercial settings to support the development of the region's biomass supply chain.
CELEBRATE AND BUILD ON THE SUCCESS OF TREES AND WOODLANDS' CONTRIBUTION TO REGENERATION AND HIGH QUALITY DEVELOPMENT IN FALKIRK	
EC 3.1	Build on the successes of environmental enhancement initiatives to ensure high quality woodland and greenspace remains central to regeneration in Falkirk.
EC 3.2	Promote partnership working between agencies, communities and developers to ensure that planned development in Falkirk makes an optimal contribution to the delivery of green networks.
EC 3.3	Promote the delivery of woodland as a component of high quality green infrastructure in parallel with new development.
EC 3.4	Work with developers, agency partners and stakeholders to highlight the benefits of delivering high green infrastructure in advance of new development.
EC 3.5	Work with partners, stakeholders and land owners to identify vacant, derelict, stalled and safeguarded sites with potential for temporary greening solutions to improve the environment for investment.
CONTRIBUTE TO DIVERSIFICATION AND SUSTAINABILITY OF THE RURAL ECONOMY AND COMMUNITIES	
EC 4.1	Encourage appropriate woodland expansion and management that supports local businesses and provides opportunities for farm diversification.
EC 4.2	Promote a joined up approach to land management, identifying economic opportunities for more integrated approaches to land-use.
EC 4.3	Support the growth of existing and the development of new woodland management businesses including traditional private companies, social enterprises and community businesses.
EC 4.4	Support proposals for well-designed 'whole farm' or significant conversion to woodland, where it can be demonstrated that opportunities for integration with other land uses have been optimised, environmental issues have been appropriately considered.

COMMUNITIES AND QUALITY OF LIFE	
Code	**Priority**
FACILITATE COMMUNITY INVOLVEMENT IN WOODLAND PLANNING, MANAGEMENT AND OWNERSHIP	
COM 1.1	Support community involvement in woodland projects, especially through mentoring and co-ordinating delivery of activity on the ground.
COM 1.2	Work with the sector, land managers and stakeholders - including the Central Scotland Green Network Trust - to highlight the benefits of community engagement and participation in woodland planning and development processes.
COM 1.3	Encourage stewardship of woodlands by and for local people and support the development of the necessary skill base to deliver meaningful engagement and long-term management.
COM 1.4	Support the delivery of training to forest and land managers to help provide the tools for positive and productive community and stakeholder engagement.

COM 1.5	Support and facilitate capacity-building through Community Planning Partnerships and relevant community-based structures.
SUPPORT COMMUNITY ENTERPRISE AND DEVELOPMENT	
COM 2.1	Support the establishment of community and social enterprises with a woodland and/or forestry dimension.
COM 2.2	Support the delivery of woodland skills training to emerging woodland-focused community and social enterprises.
SUPPORT OPPORTUNITIES FOR EDUCATION AND LIFELONG LEARNING	
COM 3.1	Increase awareness of the role of woodlands as an outdoor learning resource and a resource for education, training and lifelong learning.
COM 3.2	Promote the development and delivery of woodland-based education programmes in Falkirk.
COM 3.3	Work with partners and stakeholders to help connect potential volunteers to suitable woodland projects and programmes.
CONTRIBUTE TO PHYSICAL AND MENTAL HEALTH WELLBEING	
COM 4.1	Promote the role of woodlands in providing a resource for physical activity, accessible to all parts of society close to where people live and work.
COM 4.2	Prioritise woodland-based projects designed to deliver physical and mental health benefits, particularly in areas with higher levels of deprivation and poorer health.
COM 4.3	Work to increase the appreciation and use of woodlands and forests by people from a wide range of socio-economic and ethnic backgrounds, and ensure that facilities and promotion are fully inclusive.
ENHANCE LOCAL SENSE OF PLACE AND PROMOTING CONNECTIONS TO THE WIDER ENVIRONMENT	
COM 5.1	Target management and woodland creation activity on areas of degraded environmental quality.
COM 5.2	Promote stronger links between local cultural activities and woodland environments, identifying opportunities for woodland-based activities where possible.
COM 5.3	Work with partners and stakeholders to identify opportunities for enhanced cultural provision in and around Falkirk's woodlands.
COM 5.4	Work with partners and land managers to ensure that new woodlands are designed to reflect and enhance local townscape and landscape character.

Appendix 2

Overarching policy principles

Principle	Priorities	Key legislation and policy	Forestry operational policy and delivery	Planning operational policy and delivery
Consistent, transparent application of existing regulatory and policy frameworks		Planning Acts Planning EIA Regulations National Planning Framework 3 Scottish Planning Policy		Planning system; locally by Falkirk Council, nationally by Scottish Ministers
		[European Structural and Investment Funds] Scotland Rural Development Programme (SRDP) Forestry EIA Regulations	SRDP grants processes for woodlands and forestry administered by Forestry Commission Scotland	
Environmental protection and enhancement	Conserving and managing **soil resources**	EU 7th Environment Action Programme[59] Scottish Soil Framework	UK Forestry Standard FC Guidelines Forests and Soil Guidelines Forests and Peatlands	Scottish Planning Policy Falkirk Development Plans
	Protecting **water resources** and **water quality**	EU Water Framework Directive Water Environment and Water Services (Scotland) Act 2003;	Scotland River Basin Management Plan Forth Area Management Plan	
			UK Forestry Standard **FC Guidelines** Forests and Water	Scottish Planning Policy Falkirk Development Plans; SEPA planning casework
	Contributing to **sustainable water and flood management**	EU Floods Directive Flood Risk Management (Scotland) Act 2009	From 2015: National Flood Management Plan Falkirk Flood Management Plan	
			UK Forestry Standard **FC Guidelines** Forests and Water	Scottish Planning Policy Falkirk Development Plans; SEPA planning casework
	Conserving, managing and enhancing **biodiversity**	EU Habitats and Birds Directives Nature Conservation (Scotland) Act 2004; The Conservation (Natural Habitats	Habitats Regulations Appraisal (HRA) for plans or projects with likely significant effects on Natura 2000 sites SSSI consents Species protection and licencing, administered by SNH	

[59] Proposed EU Soil Framework Directive withdrawn, 17th January 2014

Principle	Priorities	Key legislation and policy	Forestry operational policy and delivery	Planning operational policy and delivery
		&c.) Regulations 1994, as amended; Wildlife and Countryside Act 1981	UK Forestry Standard **FC Guidelines** Forests and Water	Scottish Planning Policy Falkirk Development Plans;
	Conserving, managing and enhancing the **historic environment**	Scheduled Monuments and Archaeological Areas Act 1979, as amended Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997, as amended Scottish Historic Environment Policy (SHEP) 'Our Place in Time': The historic environment strategy for Scotland	Scheduled Monument Consent required for operations with direct physical effects on SM	
			Scotland's Woodlands and the Historic Environment Forests and the Historic Environment	Scottish Planning Policy Falkirk Development Plans;
	Conserving and enhancing **landscape character and quality**	European Landscape Convention	UK Forestry Standard **FC Guidelines** Forests and landscape	Scottish Planning Policy Falkirk Development Plans;
Informed decision-making	Making information accessible and understandable			
	Applying the Strategy			
	Evidence-based decision making			
	Proportionality			
Partnership working	Public bodies working together			
	Consistency and compatibility of advice			
	Engaging and empowering communities			
	Positive, productive relationships with the private and third sectors			
Responding positively to climate change	Applying a presumption in favour of woodland retention	Climate Change (Scotland) Act 2009 Scotland's Climate Change Adaptation	Scottish Government Policy on the Control of Woodland Removal	
				Scottish Planning Policy

Principle	Priorities	Key legislation and policy	Forestry operational policy and delivery	Planning operational policy and delivery
		Programme		Falkirk Development Plans
	Demonstrating leadership in integrated, sustainable and climate-resilient land management			
	Promoting and adopting appropriate mitigation measures			

Appendix 3

Mapping methodology

Context

Scottish Government advice 'The Right Tree in the Right Place' provided the context for the mapping work, outlining the broad criteria that Forestry and Woodland Strategies should follow. It states that '*woodland strategies should divide land into categories, including the suitability of different locations for new woodland planting,*' defining the following recommended categories:

- **Preferred** land will be that which offers the *greatest scope to accommodate future expansion of a range of woodland types*, and hence, to deliver on a very wide range of objectives. Within preferred areas sensitivities are, in general, likely to be limited, and it should be possible to address any particular site specific issues within well designed proposals that meet the UK Forestry Standard and associated guidelines. Future woodland expansion is therefore likely to be focused on preferred areas.
- **Potential** land will be that which offers considerable potential to accommodate future expansion of a range of woodland types, but *where at least one significant sensitivity exists*. The extent to which specific proposals in potential areas will be permissible will depend on how well sensitivities can be addressed within the proposals. The design of schemes in such areas will require careful consideration.
- **Sensitive** areas will be those where a *combination of sensitivities means there is limited scope to accommodate further woodland expansion*. Limited woodland expansion is only likely to be possible within sensitive areas where it is of a scale and character which can be accommodated without significant negative impacts and/or where it would positively enhance the features of interest locally. In some areas cumulative impact may be a relevant consideration.
  It will be for planning authorities to determine the detailed list of sensitivities locally that should inform the categorisation of land, but it is expected that this will include priority species and habitats, landscape, the cultural and historical environment, and interactions with the water environment and soils.

It is clear from The Right Tree in the Right Place that planning authorities are responsible for developing an approach that is suitable for their area of responsibility and adequately addresses the environmental sensitivities of that area at an appropriate scale and level of detail.

Interpretation

The Right Tree in the Right Place implies that the 'land categorisation' map should apply to **all** woodland types, representing a summation of the key sensitivities that should influence decisions on proposed woodland expansion.

As a regional strategy, the Falkirk Forestry and Woodland Strategy and its attendant Strategic Environmental Assessment focus on regionally significant sensitivities and environmental effects. Figure 3.1 was therefore compiled using GIS datasets that depicted the most important environmental features of the region. In line with The Right Tree in the Right Place, each of the identified sensitivities was then assigned to the 'sensitive' or 'potential' category, depending on the likely level of constraint their presence would impose on *any type* of future woodland expansion, as indicated in Table 0.1. These were discussed and agreed with the project Steering Group and moved through a number of iterations.

Additional land categories were selected to draw out key messages of the Strategy:

- **Existing woodland**: highlighting the presence (or absence) of the current woodland resource in the region.
- **Unsuitable**: areas assessed as being physically unsuitable for the growth or management of trees.
- **Built-up**: larger settlements – reflecting the focus on regeneration and economic development, and the fact that opportunities for new woodland within settlements are often too small to map at a strategic scale.

In addition, as part of the Strategy consultation process, it was agreed that, due to the sensitivity of the Firth of Forth SPA/Ramsar site, the area to the east of the A905 (from South Alloa to the Skinflats) which was originally categorised as 'preferred' land would now be classified as 'potential' in order to further protect habitat supporting the sites' qualifying interests.

Table 0.1 List of Datasets

Category	GIS Dataset
Sensitive	Local Nature Reserves (SNH, 2013) Wetlands of International Importance (RAMSAR) (SNH, 2012) Special Areas of Conservation (SNH, 2014) Special Protection Areas (SNH, 2012) Sites of Special Scientific Interest (SNH, 2014) National Nature Reserves (SNH, 2014) - None in Falkirk Sites of Importance for Nature Conservation (Falkirk Council, 2012) Scottish Wildlife Trust Reserves (SWT, 2014) Wildlife sites (Falkirk Council, 2012) JHI Land Capability for Agriculture Class 2 (no Class 1 in Falkirk) (JHI, 2011) Scheduled Monuments (HS, 2005) World Heritage Sites (HS, 2013) Battlefields (HS, 2013) Inventory of Gardens and Designed Landscapes (HS, 2014)
Potential	Special Landscape Areas (Falkirk Council, 2012) IHN Wetland Hotspot (SNH, 2014) IHN Neutral Grassland Hotspot (SNH, 2014) Vacant and Derelict Land (Falkirk LDP) (Falkirk Council, 2014) EDI safeguarding (Falkirk Council, 2002) JHI Land Capability for Agriculture Class 3.1 (JHI, 2011) Slamannan Plateau SPA supporting habitat: Bean geese (SNH, 2014) Peat depth (JHI, 2011) Conservation Areas (HS, 2014) JHI Topsoil Organic carbon content: >20% (JHI) JHI SNH Soil carbon richness (Blanket Peat; Basin Peat) (JHI)
Preferred	No strategic constraints
Unsuitable	Land Capability for Forestry 'unsuitable' - none in Falkirk OS MasterMap water bodies/ Phase 1 Habitat Open Water (Falkirk Council, 2008)
Built-up	Falkirk Council LDP urban / village limit (Falkirk Council, 2014) LDP land allocations (Falkirk Council, 2014)
Existing	National Forest Inventory Scotland (Forestry Commission Scotland, 2013) Phase 1 Habitat Survey - existing woodland (Falkirk Council, 2008)

Key assumptions

It is critical to understand that the mapping provided in this Strategy is necessarily indicative and that site-specific constraints and opportunities exist within each land classification – but cannot be effectively recorded or depicted at a scale appropriate for the Strategy. Detailed assessment of individual woodland creation proposals, as required by forestry legislation and regulations, remains the primary means of environmental safeguarding. As noted above – and expanded upon in the Environmental Report – the mapping depends upon the effective administration of existing environmental safeguards (e.g. the UK Forestry Standard, the Environmental Impact Assessment (Forestry) (Scotland) Regulations 1999 and the suite of Forestry Commission guidance). The maps in this document are therefore intended only to guide applicants towards suitable sites and to highlight areas where particularly objectives apply.

The constituent datasets were all captured at different scales/resolutions which limit the range of scales at which the map can be used effectively.

GIS modelling process

A range of options for map creation were considered during the course of the project, but ultimately a relatively simple approach based on intersection of sensitivities was adopted, for a number of reasons:

- Transparency and potential for consultation in arriving at components of each land class and their relationships
- Greater certainty of results – as opposed to approaches using weighting / grid-based intersection analysis

Each of the datasets listed in Table 0.1 was assembled into a unified 'category' layer using the relevant operations in ArcGIS. The seven category layers were then joined using a series of 'union' processes, which intersects each layer in the desired order and retains attribute information.

The resulting dataset was then streamlined (using the 'dissolve' process) to retain only the relevant attribute information. This was then used to calculate the area of the region falling into each category to begin to inform the quantitative scenario planning work within the SEA.

Quantifying woodland expansion

A key aspect of the SEA involved attempting to understand the potential effects of various approaches to delivering woodland expansion, ranging from a relatively low-level model (based on current trends) to more significant models based on the (then) Central Scotland Green Network or Scottish Forestry Strategy targets.

In common with the broadly landscape-driven approach adopted in the Strategy, the indicative map was subdivided by the landscape zones to provide a breakdown of the amount of preferred, potential, sensitive etc. land available in each zone.

This information formed the basis of the 'scenario planning' exercise undertaken as part of the SEA, determining the broad effects of attempting to meet various targets. For further information, see the Environmental Report.

Mapping woodland types

The Right Tree in the Right Place also states that, in addition to the land categorisation maps, authorities '*should also identify how the categories apply to different woodland types*' suggesting that the four main types of woodland identified in the Scottish Government Rationale for Woodland Expansion could be used. They are:

- Native woodlands;
- Mixed woodlands;
- Softwood forests;
- Energy forests; and,

- Urban woodlands.

The maps for each woodland type were developed using the indicative potential dataset as their basis, to ensure that key sensitivities were respected in each instance.