



East Ayrshire Local Development Plan

Non-statutory Planning Guidance

Ayrshire and
Arran Forestry and
Woodland Strategy



Ayrshire and Arran

**Forestry and
Woodland
Strategy 2014**

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Ayrshire and Arran

Forestry and Woodland Strategy 2014

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Contents

1 Introduction	2
2 Woodland in Ayrshire and Arran	8
3 Future Forests	14
4 Climate Change	34
5 Economic Development	42
6 Communities and Quality of Life	56
7 High Quality Environments	62
8 Spatial Guidance	78

Appendices

Appendix 1

98

Tables

1.1: Regulatory and Policy context summary

6

A1.8.1: ‘Sensitivity’ datasets

100

Figures

2.1: Composition of current woodland resource	9
2.2: Distribution and composition of the existing woodland resource	10
3.1: Land categorisation	19
3.2: Proportion of region within each land category	20
3.3: Distribution of potential for expansion	20
3.4: Opportunities for new softwood forests	23
3.5: Opportunities for energy forests	25
3.6: Opportunities for new native woodland	27
3.7: Opportunities for mixed woodland	29
3.8: Woodlands for regeneration	33
4.1: Woodland on peat soils	37
4.2: Flood risk	41
5.1: 25-year conifer production forecast	44
5.2: Timber transport network	47
5.3: Strategic tourism opportunities	54
7.1: Native woodland	66
7.2: Natural heritage designations	69
7.3: Heritage assets	72
7.4: Priority catchments in Ayrshire and Arran	75
8.1: Spatial framework	81

1. Introduction

Trees and woodland make a unique contribution to the environment and economy of Ayrshire and Arran. Comprising around 23% of land cover, they provide a key resource for biodiversity and deliver a wide range of environmental benefits that help to support the region's communities.

The forestry sector is an important local employer, particularly in relation to the region's nationally-significant processing capacity. Woods are also an essential aspect of the area's character, from larger-scale woodlands in the uplands to riparian, policy and farm woodlands that create distinctive structure in the agricultural lowlands. In addition to the historic value of the woodland component of Ayrshire's many designed landscapes, trees and woodland form the setting of many of the region's finest historic assets.

Despite the undoubted importance of the woodland resource and allied industries, there is significant potential for their contribution to improved and expanded.

This Strategy is intended to help landowners and managers, the industry, communities, the Ayrshire Councils and Forestry Commission Scotland work together to unlock this potential.

Planning for woodland in Ayrshire & Arran

Ayrshire and Arran have a long and distinguished history of strategic planning for woodland and forestry. From the 1995 Strathclyde Structure Plan onwards, regional guidance has been in place to guide the expansion and management of woodland. In addition to recognising the importance of woodland to the region, successive guidance has acknowledged the social and environmental costs associated with some planting carried out in earlier decades as a result of different national priorities and support regimes.

The previous Ayrshire and Arran Woodland Strategy, published in 2003, was a ground-breaking – and award-winning – approach to planning for multi-benefit woodland management and expansion. In parallel with that strategy, targeted grant aid was successful in securing a significant increase in woodland cover, relating to some 1500ha over the lifetime of the strategy.

However, the national policy approach to woodland has evolved considerably since its publication, along with the emergence of new and changing pressures on woodland, the industry and the land use sector as a whole. These challenges, and our responses to them, necessitate a new approach – and a new strategy for the region's woodlands.

The Strategy is intended to guide woodland management and expansion in Ayrshire and Arran, providing a policy and a spatial framework to maximise the contribution of woodland and forestry to the people, environment and economy of the region.

What is the Strategy for?

The Strategy will:

Provide supplementary planning guidance for the three Ayrshire Local Development Plans

Inform local authority development 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

Assist with the development and approval of Forest District Strategic Plans and long term Forest Design and Management Plans

Guide development of Regional Priorities for the Scotland Rural Development Programme (SRDP)

Why is it being developed?

National objectives and policy for woodlands and forestry changed considerably during the lifespan of the previous strategy. Planning legislation has also been thoroughly overhauled, along with European and national changes in rural development priorities and support. To ensure that Ayrshire and Arran continue to recoup the best social, economic and environmental value from its woodlands a new strategy is required.

The production of new Local Development Plans for the three Ayrshire Councils is a major opportunity to ensure that forestry and woodland policy is fully integrated with wider use and development of land.

Context of the Strategy

Policy and guidance

The management, use and expansion of woodlands sit at the interface of planning, environmental and forestry policy. While this means that trees and woodlands 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.

The Strategy has been developed based on advice provided in 'The Right Tree in the Right Place: Planning for forestry and woodlands' issued by the Scottish Government in 2010.

The Scottish Forestry Strategy (SFS) 2006 provides the wider context and Scottish Ministers' vision for multi-benefit woodland management and expansion, and should be read in parallel with this Strategy.

Drivers of woodland management and expansion

The SFS set the ambitious goal of achieving 25% woodland cover nationally by the second half of this century. The Scottish Government's [Rationale for Woodland Expansion](#) (2009) expanded on this vision, highlighting the benefits of increasing Scotland's woodland cover, including:

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

Enhancing urban areas and improving landscapes

It set 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 commitments¹. In parallel, [The Scottish Government's Policy on Control of Woodland Removal](#) (2009) seeks to reduce the impacts of development on woodland resources and requires compensatory planting for woods lost to development.

The [Scotland Rural Development Programme \(SRDP\)](#) 'Rural Priorities' include a range of options to fund woodland creation and management, tailored to specific characteristics of the region. Although the emphasis of much recent planting has been on native species to enhance landscape character and contribute to habitat networks, funding is also available for productive conifer and broadleaved woodlands. Forthcoming reform of the Common Agricultural Policy will have a significant influence on the grant framework – and

a key function of this Strategy is to ensure that Ayrshire and Arran is prepared, and has a robust set of priorities to shape our woodlands in a way that benefits the whole of the region.

Mainland Ayrshire is also included in the [Central Scotland Green Network \(CSGN\)](#), defined as a 'national development' in the [National Planning Framework 2 and 3](#)². Promoting positive management of neglected woodlands, particularly in and around settlements, is a key part of the CSGN message, as is reinforcing and expanding green infrastructure through targeted multi-benefit woodland creation. This Strategy is therefore intended as part of the 'toolkit' for helping to achieve the CSGN's aims in Ayrshire. In addition, the aim of reinforcing existing and creating new networks of high quality woodland habitat is a national priority to help facilitate ecological adaptation to climate change.

Operational

The Ayrshire and Arran Forestry and Woodland Strategy is intended to provide strategic, locational and delivery-focused 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.

It complements – and relies on – the existing regulatory process administered by Forestry Commission Scotland under SRDP and the Environmental Impact Assessment (Forestry) (Scotland) Regulations 1999. Where woodland creation or removal accompanies development within the meaning of the planning acts, the three Ayrshire Councils are responsible for determining applications.

Woodland expansion and management will be expected to comply with the UK Forestry Standard and Forestry Commission Scotland Guidelines and practice notes.

Terminology

The emphasis of current Scottish Government policy makes the delivery of multiple benefits – 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 to 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.

¹ See 'Low Carbon Scotland: Meeting the Emissions Reductions Targets 2010-2022'

² This means that it must be supported in all lower tier plans and strategies – namely the three Ayrshire Local Development Plans

Status of the Forestry and Woodland Strategy

The Strategy forms Supplementary Planning Guidance to the three Ayrshire Local Development Plans. It is therefore a material consideration in planning decisions involving development proposals affecting woodland³.

Regulatory and policy context summary

Table 1.1: Regulatory and policy context summary

Forestry	Planning	Natural heritage	Historic environment	Water and soil
Climate Change (Scotland) Act 2009	Town and Country Planning (Scotland) Act 1997, as amended	Nature Conservation (Scotland) Act 2004	Historic Environment (Amendment) Act 2011	Water Environment and Water Services (Scotland) Act 2003
Environmental Impact Assessment (Forestry) (Scotland) Regulations 1999	Environmental Impact Assessment (Scotland) Regulations 1999, as amended	The Conservation (Natural Habitats &c.) Regulations 1994, as amended		Flood Risk Management (Scotland) Act 2009
UK Forestry Standard	Scottish Planning Policy (SPP)	Wildlife and Countryside Act 1981	Scottish Historic Environment Policy (SHEP)	Scottish Soil Framework
Scottish Forestry Strategy 2006 (SFS)	National Planning Framework 2 and 3		Historic Environment Strategy for Scotland	Land Use Strategy
(Scotland Rural Development Plan)				Scotland River Basin Management Plan
The Scottish Government's Rationale for Woodland Expansion;			Scotland's Woodlands and the Historic Environment	
The Scottish Government's Policy on Control of Woodland Removal				
National Forest Estate Strategic Plan / Forest District Strategic Plan	Statutory development plans			Clyde Area Management Plan
FC Guidelines		Forests and landscape	Forests and the Historic Environment	Forests and Water
		Forests and Biodiversity		Forests and Soil Guidelines
				Forests and Peatlands

³As defined in Paragraph 25 of Scottish Planning Policy and Annex A of Circular 4/2009 Development Management Procedures

The Strategy is intended to be accessible and useful for all sections of society that have an interest in woodland and forestry issues. It highlights the important contribution that trees and woodlands can make to a wide range of economic, social and environmental policy agendas.

Using the Strategy

Ayrshire Local Authorities

The three Ayrshire Councils will use the Strategy, and accompanying spatial data, in responding to consultations on proposals for woodland creation through SRDP.

The Strategy provides a framework for assisting decision-making on development proposals that affect woodland to ensure that compensatory planting makes a meaningful contribution to Ayrshire's environmental, social and economic priorities. It also provides part of the 'toolkit' available to the Councils to help ensure that their activities and their decisions on new development make a positive contribution to the development of the Central Scotland Green Network.

Forestry Commission Scotland

FCS will require land managers seeking grants for woodland expansion or management in Ayrshire and Arran to develop their proposals in line with this Strategy, ensuring that they are suitable for the environments, constraints and opportunities of the area.

Land managers & developers

The Strategy provides a clear vision of how the woodland resource and forest-based economy in the region should develop over the next 40 years. The priorities established in Section 3 provide guidance on the types of woodland management

and creation schemes that will be supported, and where, giving agents and landowners a degree of certainty in applying for support. They are also linked to the appropriate SRDP Rural Priorities to assist in the preparation of grant applications – supporting the aims and objectives of this Strategy are a strong justification for approval.

Communities

The Strategy provides communities across Ayrshire and Arran with a useful insight into the key issues, and the patterns of woodland management they are likely to see in their area. It also sets out the range of social, environmental and economic benefits that the Councils expect woodland and forestry to deliver to local people.

The region's woodlands are a major resource for its people, providing employment and business opportunities, high quality environments and a largely untapped sustainable energy reserve. They also provide a range of less tangible benefits, known as 'ecosystem services' – such as clean air, protection from flooding and erosion, and carbon storage – which contribute to everyone's well-being. The policies and actions set out in the Strategy ensure that local people have assurances that these interests will be safeguarded and enhanced.

The Strategy also provides opportunities to communities and individuals to get involved in the process of woodland management – from facilitating engagement in the planning process to developing community woodland and forest-based businesses.

2 Woodland in Ayrshire and Arran

This section of the Strategy examines the existing woodland resource, the benefits it currently delivers and identifies key issues that woodland and forestry can contribute to solving.

Ayrshire and Arran’s woodlands already make an important contribution to the region’s environment, economy and the quality of life of local people. However, there are opportunities to improve the range of benefits delivered by the resource and allied industries.

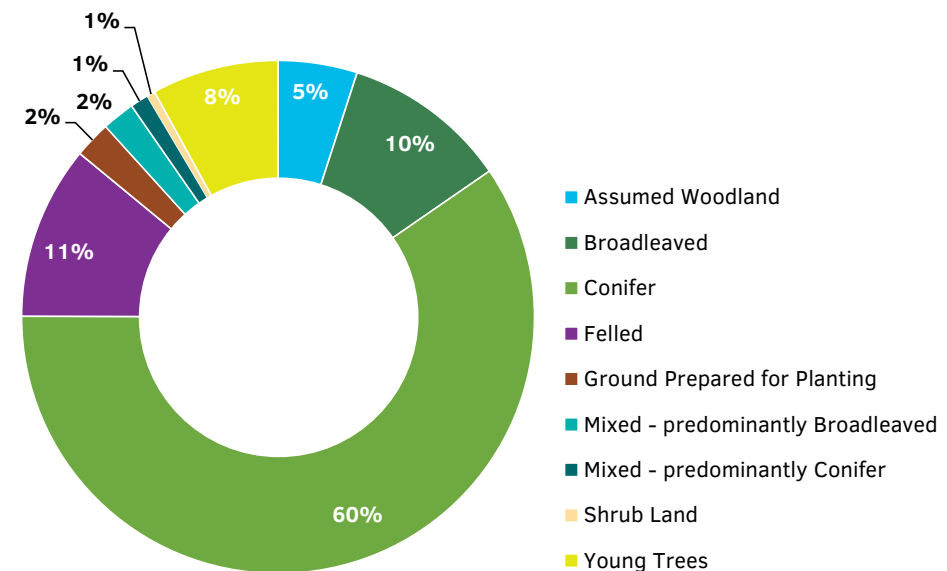
Where we are

Existing woodland resource

The region has a rich and varied woodland resource, resulting from centuries of management and decisions on the use – or otherwise – of land. Whether woodland is of ancient, semi-natural origin or has been recently planted as part of the strategic timber resource, it has a role to play.

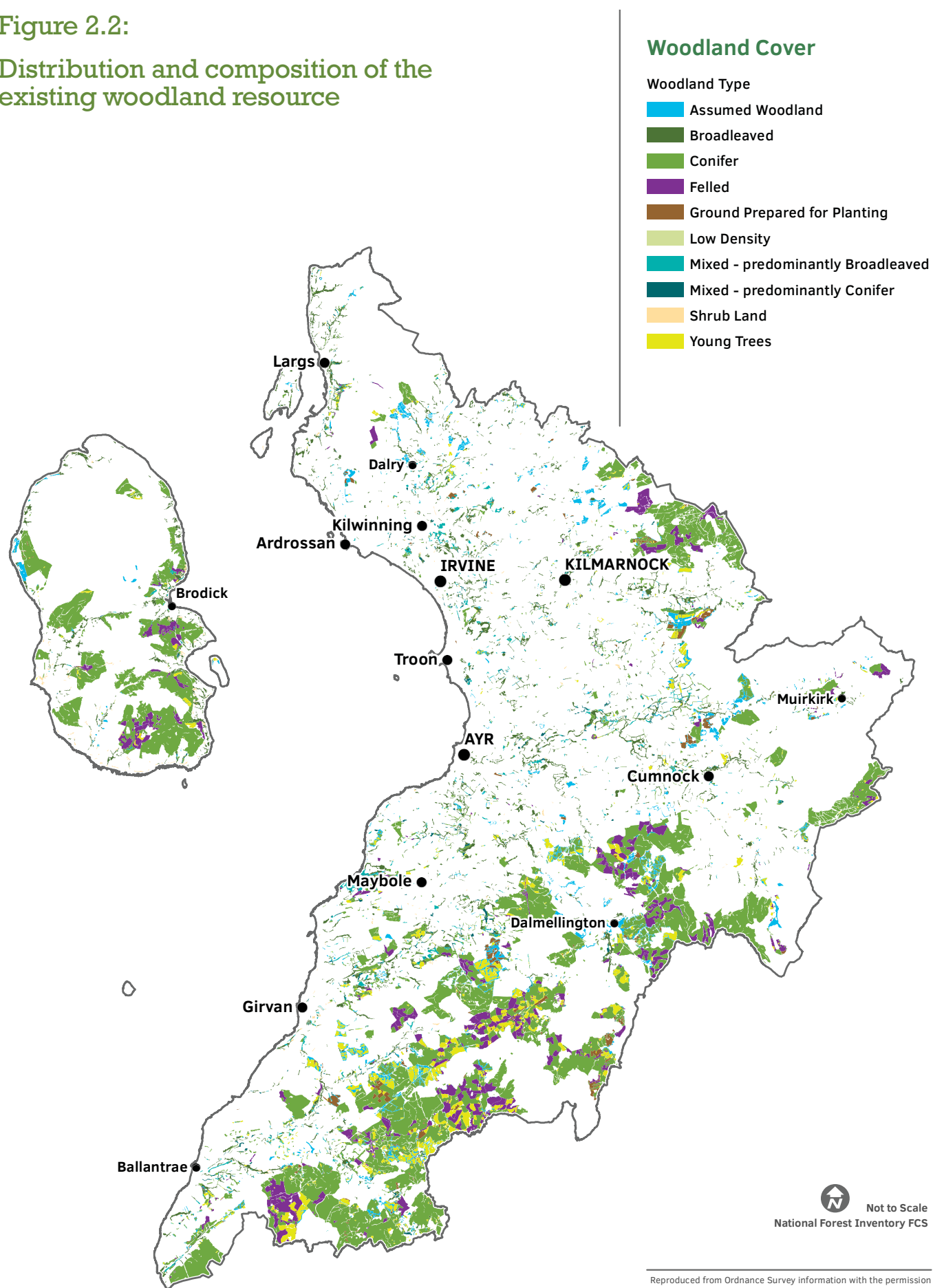
In recent years, the amount of woodland created in Ayrshire and Arran has fallen, whilst the rate of woodland removal has increased significantly, principally as a result of large-scale wind energy developments. This has resulted in an overall reduction of woodland cover since the publication of the last Woodland Strategy. **Figure 2.1** and **Figure 2.2** illustrate the composition and distribution of the region’s current woodland resource.

Figure 2.1: Composition of current woodland resource



Data from National Forest Inventory, FCS.

Figure 2.2:
Distribution and composition of the existing woodland resource



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Type and distribution

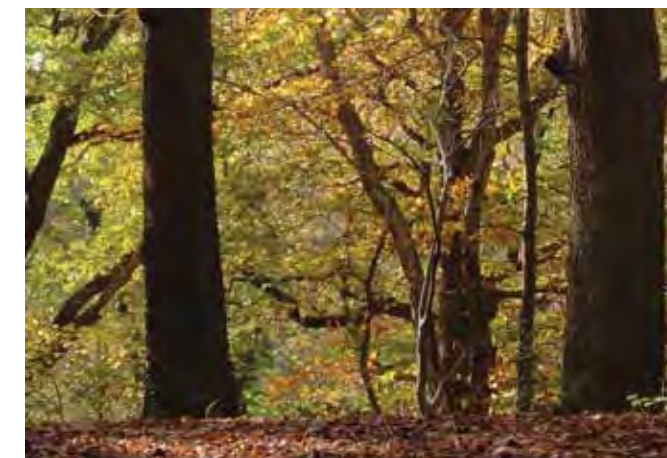
Native woodland

Native and semi-natural woodlands tend to be concentrated in lowland river valleys and on the steep former cliff lines found along much of the coastline of Ayrshire and Arran. Many of these woodlands are ancient in origin and some are judged to be of national importance for their flora and fauna. Examples include gorge woodlands along the River Ayr. Northern Arran is home to three endemic species of whitebeam⁴ - Scotland's rarest native trees.



Mixed woodland

Much of lowland Ayrshire is made up of pastoral farmland where hedges, field boundary trees, shelterbelts and other farm woodlands make an important contribution to the area's distinctive landscape character. Also of importance are the historic designed landscapes, including policy woodlands associated with many large estates. These are found throughout the area, with particular concentrations along some of the river valleys.



Softwood forests

Existing large-scale softwood forests, established during the 1970s and 80s, are being restructured to include a greater proportion of open ground and more diverse age and species structures. There has been some felling to accommodate wind farm developments resulting in a net loss of cover, though national policy now requires any losses to be compensated. The presence of peat soils in some areas, together with the practical issues around timber extraction may also mean that some existing areas of forest are not replanted following harvesting. This highlights the importance of identifying areas that are suitable for new woodlands.



Urban trees

Trees and woods also make an important contribution to the character and setting of Ayrshire and Arrans towns and villages. Gardens, parks, street trees and riparian woodland all play their part. In many cases there is potential for additional woodland planting to enhance derelict and vacant land, and to integrate new development more effectively into the landscape. The creation of new orchards and energy woodlands can provide viable uses for land around the urban fringe.



⁴ Arran whitebeam *Sorbus arranensis*; Arran cut-leaved whitebeam *Sorbus pseudofennica*; and, Catacol whitebeam *Sorbus pseudomeinichii*

Where we want to be

A vision for woodlands and forestry

Woodlands will support healthy timber production and processing industries, provide new opportunities for tourism and recreation and will be integrated with agriculture and other key land uses

Woodlands will improve communities' quality of life by improving local environments, involving people in woodland planning, management and ownership, and delivering recreation, education, active travel and health benefits

Woodland will contribute to a high quality, resilient and diverse natural environment, helping us to adapt to the challenges of climate change and reduce our emissions of greenhouse gases

Our Vision...

By 2050, Ayrshire and Arran's woodlands will make a significantly enhanced contribution to the region's economy, the health and well-being of its communities and the quality and resilience of its environment.

How we're going to get there

Aims and objectives

To optimise the role of woodland in addressing climate change:

Reducing greenhouse gases emissions

Helping communities, the timber sector and the natural environment adapt to the changing climate

To optimise woodlands' contribution to the economy of Ayrshire and Arran:

Increasing and matching timber production and processing capacity

Developing sustainable timber transport solutions

Supporting development of a market for woody biomass

Increasing the role of woodland in creating a high quality environment for economic investment and regeneration

Supporting the development of tourism, recreation and related enterprises

Supporting rural diversification

To optimise woodlands' contribution to communities' quality of life:

Improving degraded urban and urban fringe landscapes

Creating opportunities for active travel, recreation, education and training and healthy lifestyles

Increasing community involvement in woodland planning, management and ownership

To optimise woodlands' role in creating a high quality, resilient and diverse environment:

Reinforcing Ayrshire and Arran's landscape character and sense of place

Improving degraded urban and urban fringe landscapes, derelict and vacant land and areas affected by mineral working

Improving woodland biodiversity while protecting important non-woodland habitats and species

Conserving historic designed landscapes and veteran trees

Protecting and improving understanding and enjoyment of the historic environment

3 Future Forests

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

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 region's finite land resources. A key role of this Strategy is therefore to steer 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 delivered⁵.

Future extent of woodland

Ayrshire and Arran currently has a level of woodland cover above the Scottish average – but which has fallen in recent years as a result of a range of factors largely unforeseen in the 2003 Woodland Strategy.

A significant proportion of the planted conifer resource is approaching maturity and will be available for harvesting in the next decade, creating further challenges and opportunities. The increase in locally sourced wood fibre will contribute to the sustainability of processors in the region. Decisions on restructuring, restocking, relocating or developing new productive capacity

will help to provide a robust and resilient resource for the future that delivers a wider range of benefits than at present.

In lowland areas, expanded networks of woodland will play an important role in improving resilience to the challenges of climate change, enhancing habitat connectivity, landscape quality and contributing to agricultural diversification.

In and around towns and villages, new trees and woodlands can help contribute to regeneration, improving degraded environmental quality and adding to local character and distinctiveness, making Ayrshire a more attractive place to live, work and visit.

⁵In line with The Scottish Government's *Policy on Control of Woodland Removal* – a strong presumption against woodland removal exists except where it would achieve significant and clearly defined additional public benefits.

Ayrshire and Arran currently has around **76,700ha** of woodland - c.23% of land area

National objectives

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

Enhancing urban areas and improving landscapes⁶

The Central Scotland Green Network (CSGN) adds an extra dimension in mainland Ayrshire, particularly in and around settlements. The CSGN creates a range of opportunities for woodland to contribute to regeneration, improving access to high quality environments and assist in local efforts to adapt to climate change.

⁶The Scottish Government's Rationale for Woodland Expansion, p.6

What will it look like?

The Strategy aims to ensure that the region's woodland cover is at least maintained at current levels (c.76,700ha, or 23% of land area), rising gradually to around a quarter of the region's land area. However, achieving the Vision, aims and objectives will mean that the resource looks a little different.

Over the 40 year horizon of the Strategy, people will notice that Ayrshire feels 'greener' – with a greater proportion of woodland located closer to settlement and transport routes. The larger-scale forests in the uplands, while maintaining a significant presence in the landscape, will include a greater proportion of native species and open ground – creating more diverse, attractive environments for biodiversity and people alike – as current and future forest plans are implemented. There is likely to be a movement of softwood forests 'downhill', moving from sensitive peat soils onto lower-lying ground.

Woodland expansion

In comparison with much of Scotland, Ayrshire and Arran is relatively well-wooded. While there are opportunities for expansion, which are explained in more detail below, the key message of the Strategy is to direct effort to where it can optimise the benefits delivered by woodland. Our overarching priorities are:

Managing the existing woodland resource and improving its environmental, social and economic contribution

Encouraging sufficient planting of a range of woodland types in appropriate locations to maintain the region's tree cover and deliver a sustainable contribution to national expansion targets. This means that past reductions in woodland cover need to be reversed and that any future losses are appropriately compensated within Ayrshire and Arran

Encouraging greater diversity in the mix of tree species planted in Ayrshire and Arran to promote greater resilience to the effects of climate change and emerging threats from pests and diseases

The land area of Ayrshire and Arran has been classified by broad sensitivity to woodland expansion, based on the guidance provided by ‘The Right Tree in the Right Place’ – FCS and the Scottish Government’s advice on forestry and woodland strategies.

Land categorisation

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 small areas that could readily fall into a different category. The importance of site-specific assessment of individual proposals for woodland expansion, or woodland removal, is therefore paramount. The following categories have been adopted:

Preferred: land that 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. Sensitivities are limited and it should be possible to address any site-specific issues within well-designed proposals that meet the UK Forestry Standard and associated guidelines

Potential: land that offers considerable potential to accommodate a range of woodland types, but where at least one significant sensitivity exists. Design of proposals in this area will require careful, site-specific consideration to ensure they are of an appropriate type and scale to be successfully accommodated

Sensitive: areas where the nature or combination of sensitivities restricts the scope to accommodate woodland expansion or removal. Limited expansion is only likely to be possible where proposals are of a scale and character which can be accommodated without significant negative impacts, and/or where it would positively enhance features of interest

Existing woodland: land that is currently under woodland of any type

Unsuitable: land that is physically unsuitable for the growth or management of trees

Built-up: larger settlements, within which opportunities for woodland creation are generally too small to map effectively at a strategic scale

The process of developing the mapping contained in the Strategy is set out in more detail in Appendix 1.

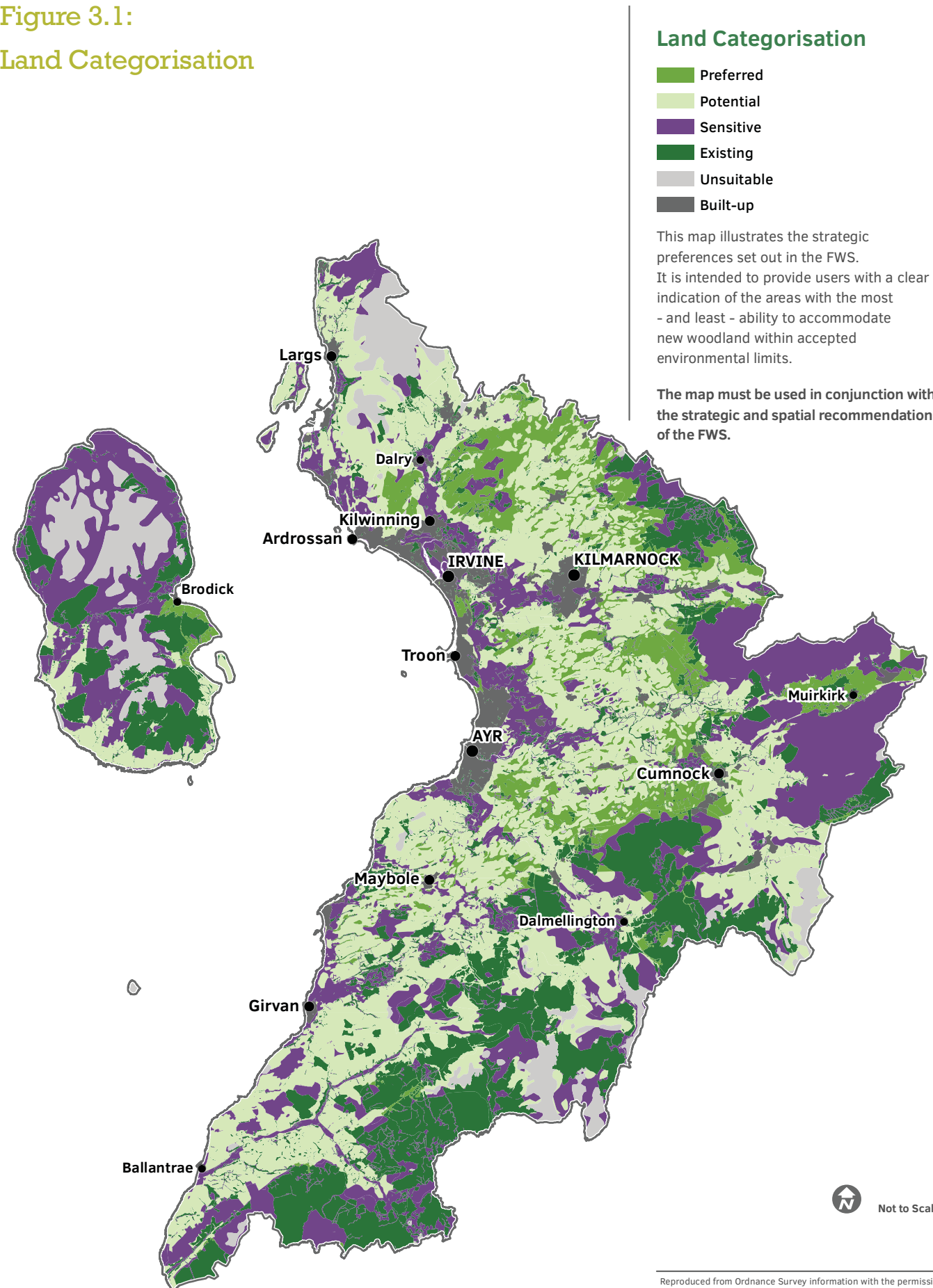


As a qualifying plan, for the purposes of the Environmental Assessment (Scotland) Act 2005, Strategic Environmental Assessment was a statutory requirement for the Ayrshire and Arran Forestry and Woodland Strategy.

The accompanying SEA Post-Adoption Statement can be viewed on the Scottish Government SEA web pages [<http://www.scotland.gov.uk/seag/seagDocs/SEA-00654/14653.pdf>]

For further information, please see the accompanying SEA Post-adoption Statement. For more general information on SEA, please see the Scottish Government SEA web pages.

Figure 3.1:
Land Categorisation



Land Categorisation

- Preferred
- Potential
- Sensitive
- Existing
- Unsuitable
- Built-up

This map illustrates the strategic preferences set out in the FWS. It is intended to provide users with a clear indication of the areas with the most - and least - ability to accommodate new woodland within accepted environmental limits.

The map must be used in conjunction with the strategic and spatial recommendations of the FWS.

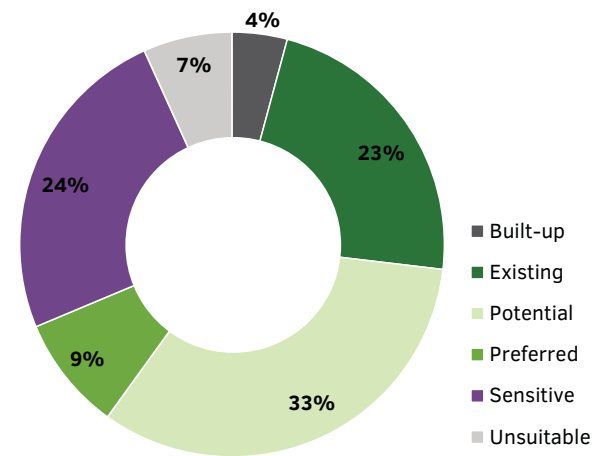
Not to Scale

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Potential for woodland expansion

Figure 3.1 and **Figure 3.2** indicate the level of potential for woodland expansion across the region. The map requires careful interpretation and does not illustrate the areas that will, or should, be planted. Instead, it depicts the broad level of environmental sensitivity of the region to new woodland of all types.

Figure 3.2:
Proportion of region within each land category

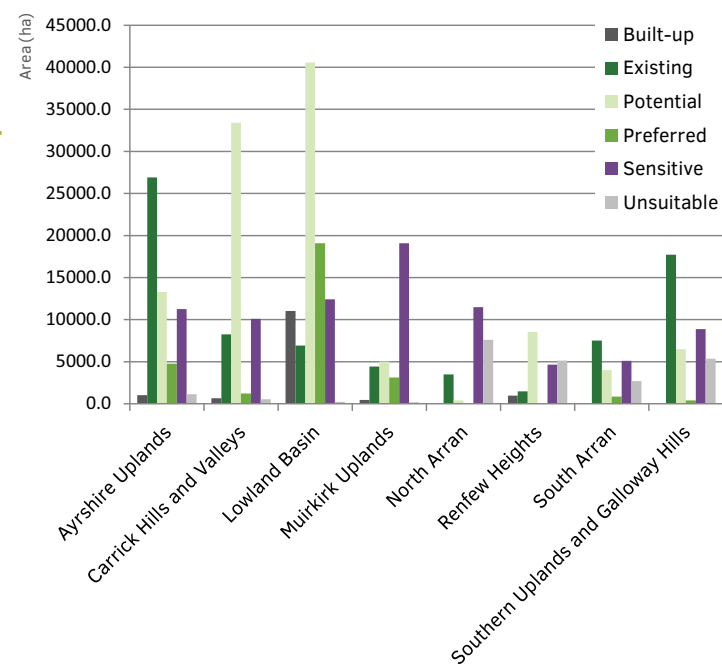


There is significant potential to accommodate new woodland within the region – with around 42% of land area assessed as having some capacity. This equates to an area nearly twice as large as that currently under woodland.

However, it would be neither practical nor desirable to suggest that this area should be entirely converted to woodland – however, it does illustrate the possibilities for addressing recent losses in woodland cover, and for the region to make an expanded contribution to Scottish Government’s aspirations.

This potential is not, however, evenly distributed throughout the region as **Figure 3.3** shows. Such is the quality of Ayrshire and Arran’s environments that significant proportions of the area are subject to national and international designation – which fall into the ‘sensitive’ land category. 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 and design.

Figure 3.3:
Distribution of potential for expansion



Section 8 of the Strategy provides more detailed guidance on the types of woodland that are best suited to the opportunities of each of the region’s landscape zones. Refer to Figure 8.1.

Woodland types

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 in Ayrshire and Arran requires guidance on where each type is most appropriate and can add most value.

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.

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

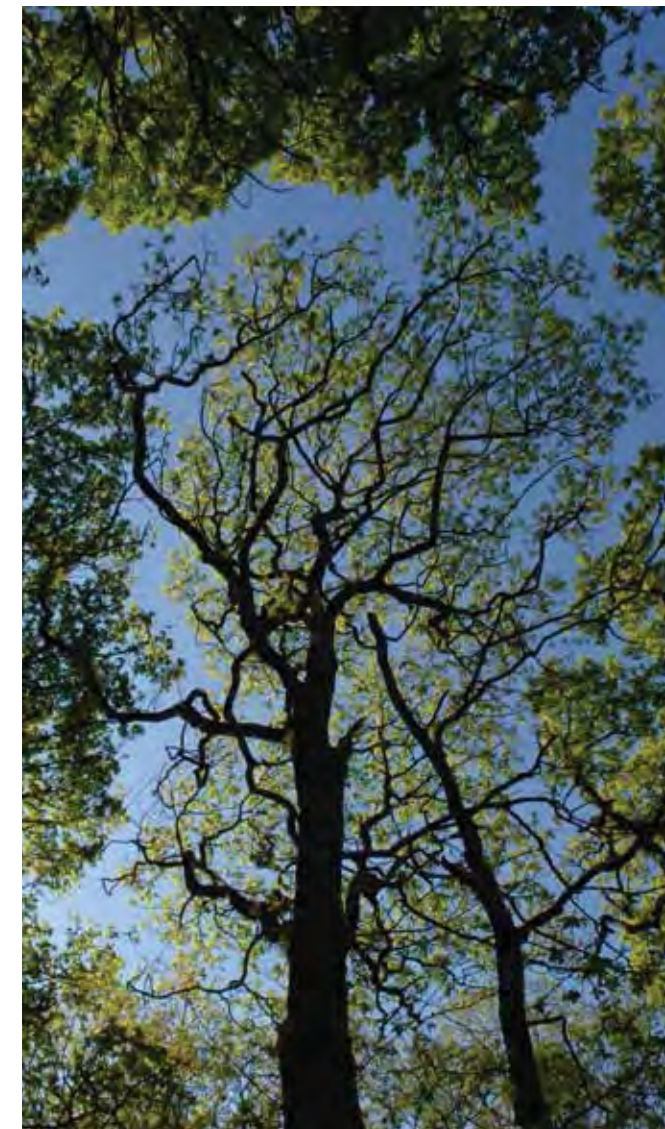
Forests to provide a source of **softwood** timber

Woodlands for **energy**

Mixed woodlands, such as farm woodlands and shelterbelts

Native woodlands contributing to habitat networks

Woodlands contributing to strategic development and **regeneration** objectives



These maps are indicative and 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

Existing conifer forests are concentrated on the upland fringes of the region – in the Carrick Hills, Southern Uplands and on the Ayrshire Rim. Much of the resource dates from the 1970s and 1980s and is approaching maturity, creating significant opportunities to restructure these plantations. This affords the sector unparalleled scope to:

Add value to second rotation timber on suitable sites

Where viable, adopt lower impact silvicultural systems

Design in landscape and environmental quality and opportunities to support recreation and tourism

Restore sites on sensitive peat soils and enhance key habitat networks, relocating woodlands to more accessible and appropriate locations

As sites are harvested, difficult decisions will be necessary to weigh the environmental, economic and social benefits of restocking, restructuring or restoration.

Almost 50% of the existing softwood resource is located on peat soils⁷. In these locations there may be opportunities to add value through restructuring and restoration – prioritising sites with particularly high soil carbon content/peat depth. Restructuring also creates opportunities to contribute to habitat connectivity, allowing newly-created networks of native woodland, grassland and restored wetland to link existing resources in and around restructured forests. Further detail on the location of existing woodland resources on peat soil is provided by **Figure 4.1**.

Potential for expansion?

Current production forecasts indicate that, in less than 20 years, the region will experience a substantial drop-off in production (see **Figure 5.1** for details).

This suggests that new planting of productive conifers will be required to maintain the local contribution to the sustainability of the region's primary and processing sectors. Similarly, significant recent woodland removals and the likely reduction in productive area, resulting from restructuring first rotation forests and restoring less appropriate sites, will further reduce the area available for production.

As **Figure 3.4** indicates, the land with the greatest potential to accommodate new productive woodlands is largely located on the lower slopes of Ayrshire's uplands. This land has the benefit of:

Being more accessible from the transport network, and closer to markets/users

Soils with depleted carbon content that would sequester significantly more carbon under woodland⁸

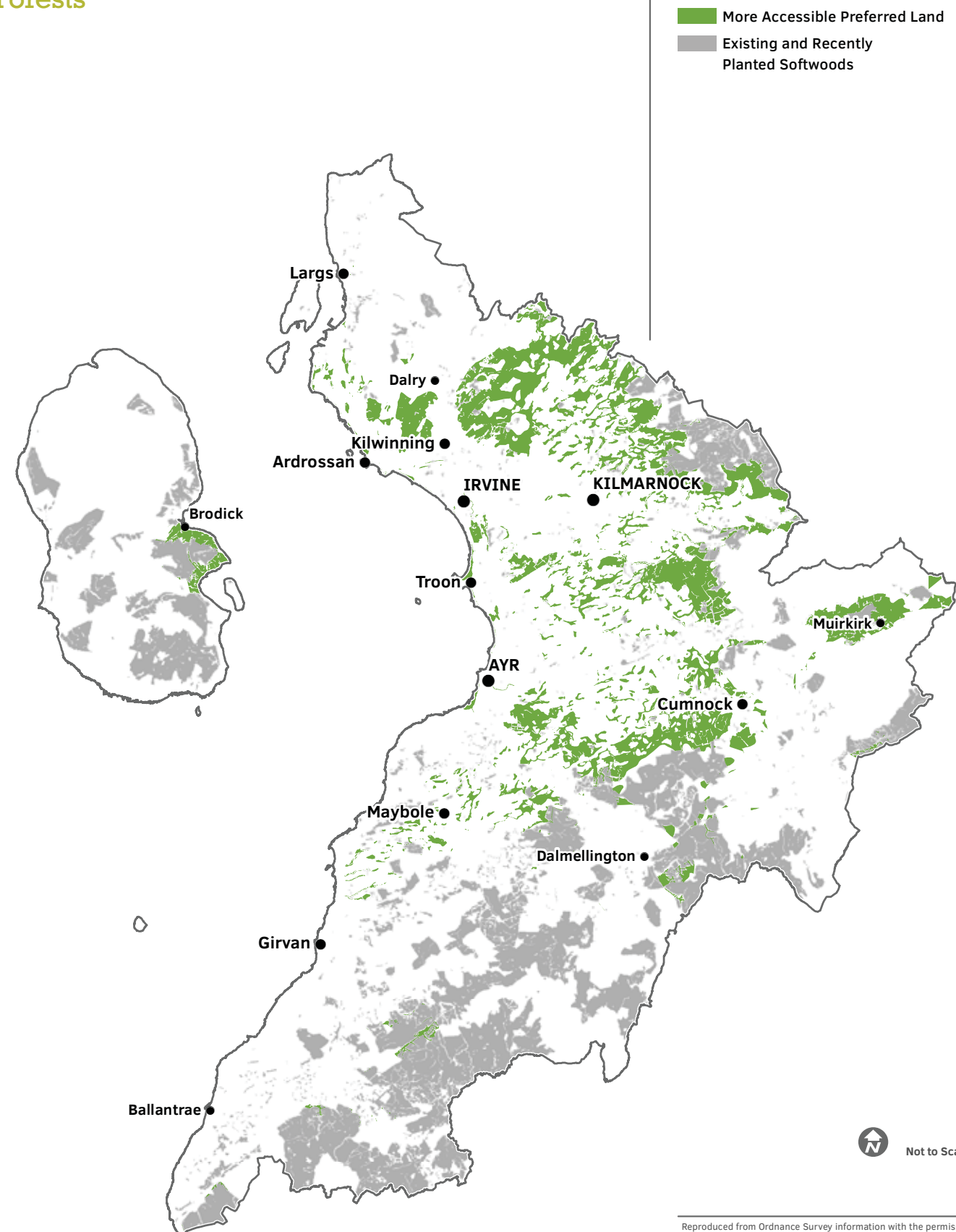
Offering an alternative sustainable land use to under-used or abandoned marginal farmland

Further opportunities for productive woodland may be conferred through the restoration of former mineral sites, as part of long term remediation plans and in areas best-suited to producing a good quality timber crop.

⁷Basin peat: 2%; Blanket peat: 34%; Deep blanket peat: 0.07%; Eroded blanket peat: 0.04%; Semi-confined peat: 13.4%

⁸Woodland soils generally hold twice the carbon stored in the trees themselves
Combating Climate Change: A Role for UK Forests (2009). The Stationery Office, Edinburgh

Figure 3.4:
Opportunities for New Softwood Forests



Opportunities for Softwood Forests

- More Accessible Preferred Land
- Existing and Recently Planted Softwoods

Energy forests

Managing the existing resource

Much of the region's woodland has some potential to contribute to growing the biomass sector. Apart from productive conifer forests, the majority of the woodland resource is under-managed and would benefit from more active stewardship. In addition to providing a significant fuel resource, this could make a substantial contribution to the health of native woodland ecosystems, improve the appearance and value of neglected woods close to towns and villages and provide an income from a currently underperforming resource.

Developing robust supply chains is key to the long term sustainability of the local biomass industry. This is particularly significant on Arran, where the high cost of transporting material on and off the island makes the development of a robust internal market particularly attractive. Here, the most appropriate source of biomass is likely to remain harvesting residues, small diameter roundwood and, where it can be accomplished without adverse impacts, stump recovery following harvesting of conifer forests.

Rising fuel prices are a particular concern for island and other isolated communities without access to the gas network, as well as in the more deprived areas of Ayrshire where fuel poverty is a serious issue.

Residues from the region's major processors could add further value by either providing a source of on-site renewable energy (as in the case of UPM Caledonian papermill) or as a marketable product, through the production of wood pellets.

Potential for expansion?

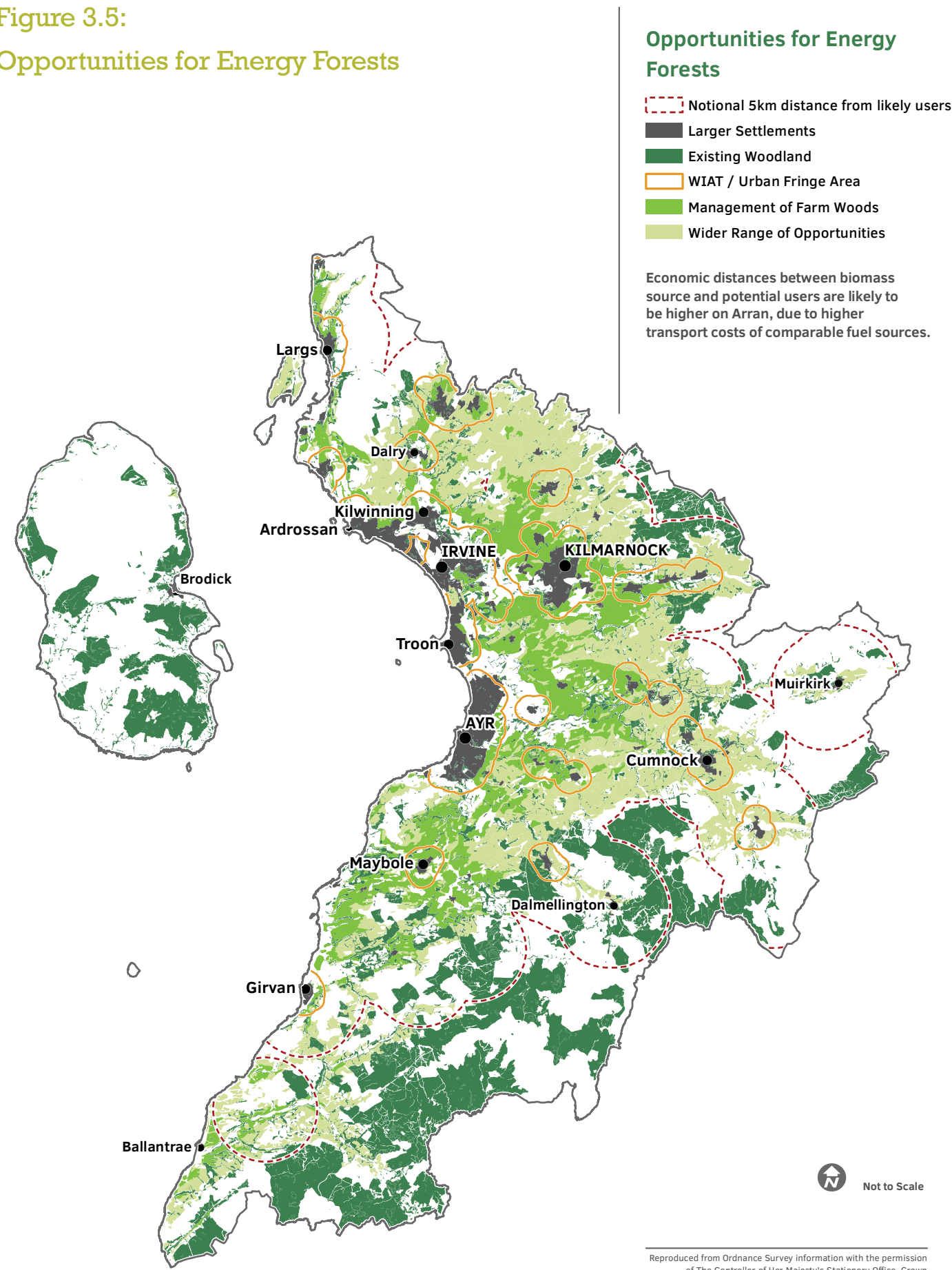
It is unlikely that large-scale planting solely for biomass production will become a significant element of Ayrshire's woodland resource. In lowland areas, where land is suitable for short rotation coppice, land and agricultural values are likely to remain sufficiently high to limit uptake. Therefore in areas of better quality land, the creation of multipurpose farm woodlands is likely to provide the bulk of new material in the longer term.

Close to towns and villages, the expansion and enhancement of amenity woodlands will provide additional material through thinning and maintenance. Biomass could 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.

In more marginal areas, short rotation forestry could become a component of new planting schemes. Building on work commissioned by the Irvine Bay Urban Regeneration Company, vacant and derelict land – and even stalled development sites – could provide an attractive location for new woodland with a biomass component. Equally, such an approach could be applied to the restoration and positive reuse of minerals sites.



Figure 3.5: Opportunities for Energy Forests



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Native woodland

Managing the existing resource

Ayrshire and Arran in general has relatively fragmented native woodlands – with the notable exceptions of the larger river valleys which provide the broad structure of the resource. Of the 9 SSSIs in the region designated for their woodlands, only three are in ‘favourable’ condition, potentially indicating that the general health of these ecosystems is failing. Similarly, most native woodlands are relatively small, limiting their resilience to the effects of climate change and their overall habitat diversity.

A key objective for managing the region’s native woodland is therefore to protect and enhance key sites – such as Arran’s upland birch and whitebeam woodlands and the remnant upland oak woodland in the Ayr gorge – targeting interventions to secure the ‘core’ of the region’s woodland habitat networks.

A number of larger estates contain ‘Plantations on Ancient Woodland Sites’ (or PAWS) – areas that were once native woodlands, but have been subsequently felled and replanted, often with non-native species. Where the intactness of remnant features and/or the ancient woodland seed bank can be established, these sites could be progressively restored to native woodland.

Potential for expansion?

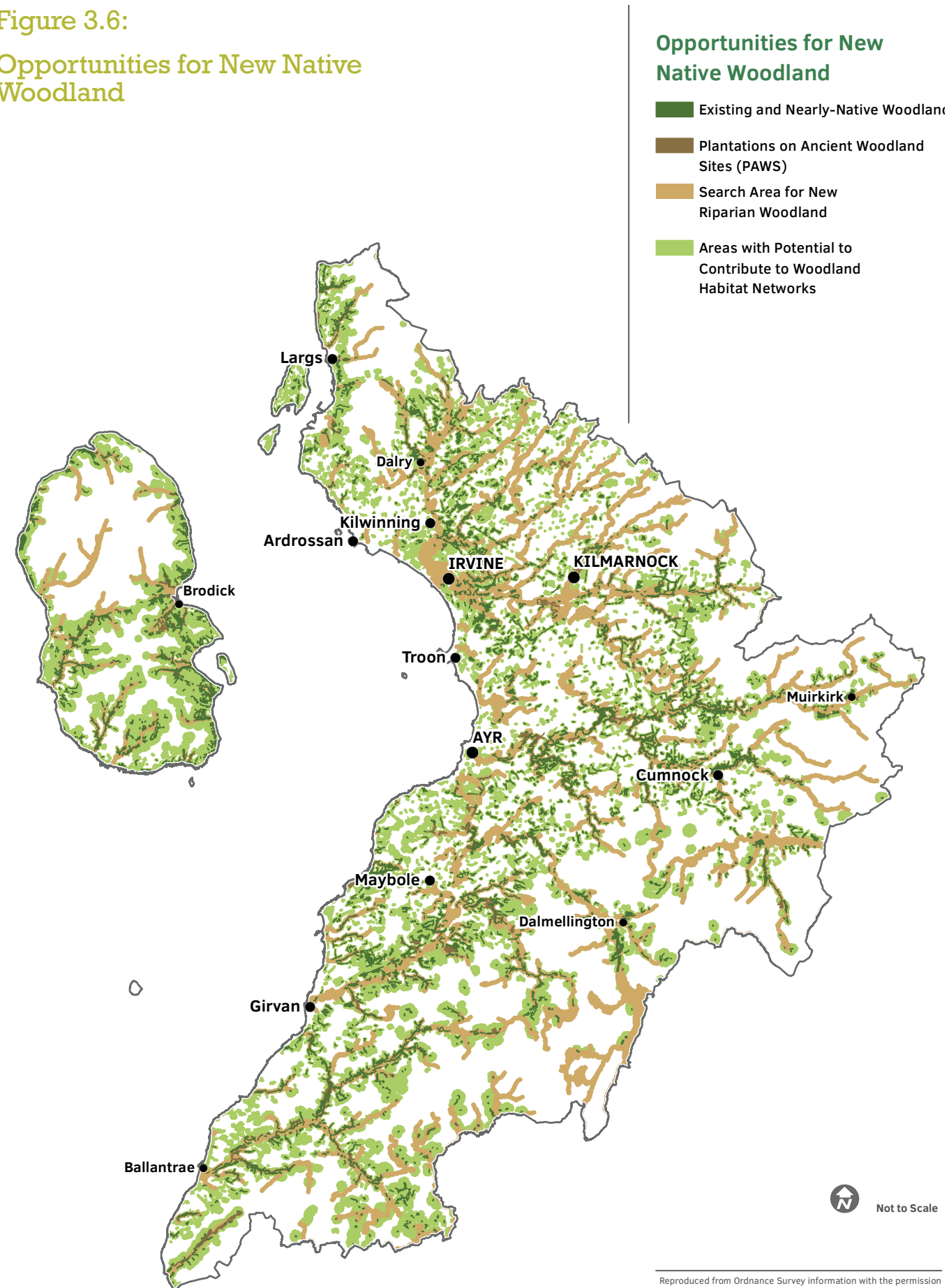
Given the level of fragmentation of existing native woodland illustrated in **Figure 3.6**, there is a strong need for native woodland expansion to address a range of issues.

Creating and enhancing robust networks of woodland habitat will be critical, not only in assisting species’ adaptation to the effects of climate change, but in adding to the resilience of our own homes and communities. River corridors could therefore provide the initial focus of effort, bolstering existing riparian networks and contributing to wider sustainable water management efforts. As such, new native woodland may be useful in achieving wider objectives set by the Scotland River Basin Management Plan, and the associated Clyde Area Management Plan, particularly with regard to tackling diffuse pollution and managing flood risk. Current rural development funding, delivered through SRDP, offers a range of opportunities for landowners to create native woodlands, including those with a productive element contributing to the hardwood timber resource.

The Integrated Habitat Network data, used in the development of **Figure 3.6** and other Strategy mapping, will provide useful insights at the site-specific level. The ‘Areas with Potential to Contribute to Habitat Networks’⁹ depicted in **Figure 3.6** represent the possible ‘easy wins’ in the region – where new woodland could help to secure the integrity of core sites. However, the wider challenge is addressing the ‘white space’ shown on **Figure 3.6** and creating robust networks of new woodland and other habitats.

New native woodlands could also make an important contribution to climate change adaptation, through the development of new riparian and floodplain woodland in suitable locations. Planning authorities will highlight the opportunities for the delivery of new native woodlands as part of the landscaping and sustainable drainage solutions proposed as part of new developments.

Figure 3.6:
Opportunities for New Native Woodland



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⁹Based on the Broadleaved and Yew Woodland IHN 'priority enhancement areas'

Mixed woodland

Managing the existing resource

The mixed woodland resource is focused largely in and around the region’s numerous surviving and former designed landscapes. Networks of policy woodland extend from estate centres out into farmland and river corridors, making an important contribution to landscape character and habitat networks. However, this resource is also fragmented often degraded – particularly where estates have been broken up or are not managed as a coherent entity (unlike those which have become Country Parks).

There is significant potential to bring these woodlands into more active management in a manner that is compatible with protecting and enhancing their cultural significance and natural heritage value. However, it is necessary to actively plan for the future of these sites. ‘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.

Like the lowland woodland resource in general, farm woodlands are currently highly fragmented. The trend towards indoor overwintering of livestock has reduced the need for, and impetus to maintain, shelterbelts and field trees. Similarly, relatively high land values have impeded progress in development of more extensive woods. This is particularly the case for tenant farmers, where the long term nature of forestry offers little incentive to invest.

Terminology

For the purposes of this Strategy ‘mixed’ woodland is defined as “woodlands of mixed species composition, often including native broadleaves, traditional non-native broadleaves (such as beech, sycamore/ ornamental Acers and horse chestnut) and conifers. They may be designed to provide year-round shelter, landscape enhancement, screening or enclosure, as well as the potential to provide products for local use¹⁰.”

¹⁰Adapted from The Scottish Government’s Rationale for Woodland Expansion

In the short to medium term, management effort should focus on arresting the decline of this important resource and planning for the replacement of field trees in good time. For larger woods, biomass potentially offers a useful route towards positive management – providing an income and funding for future interventions.

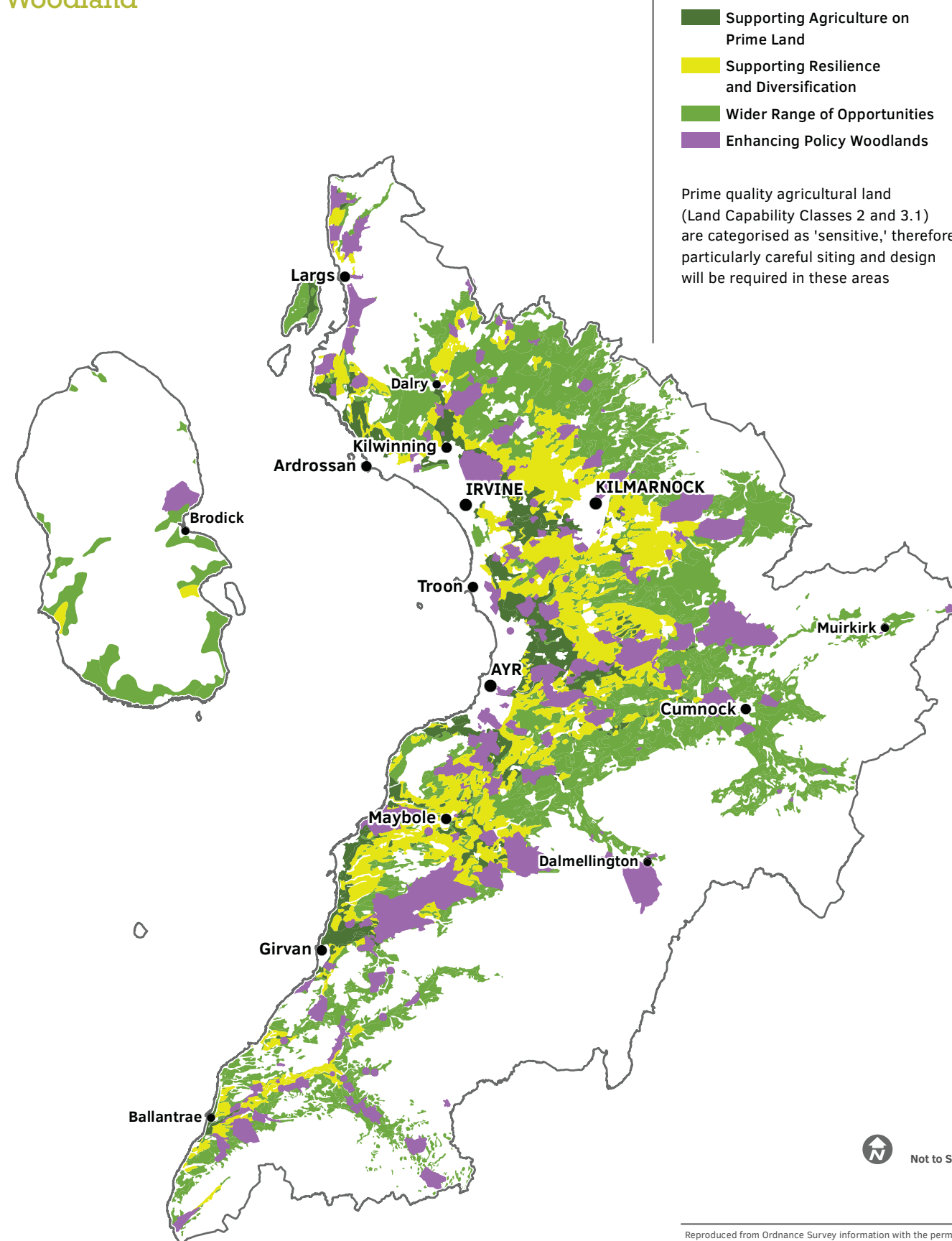
Bridging the gap between the Strategy’s aspirations for woodland management and low levels of activity on the ground is a key challenge that implementation of the Strategy will need to address. There are likely to be a range of reasons why farm and estate woodland in particular are not managed more widely, including:

- Levels of financial assistance and return

- Availability of skills and relationship with land managers’ core activities

- Awareness and individual land manager priorities

Figure 3.7:
Opportunities for New Mixed Woodland



Opportunities for New Mixed Woodland

- Supporting Agriculture on Prime Land
- Supporting Resilience and Diversification
- Wider Range of Opportunities
- Enhancing Policy Woodlands

Prime quality agricultural land (Land Capability Classes 2 and 3.1) are categorised as 'sensitive,' therefore particularly careful siting and design will be required in these areas

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Potential for expansion?

Although the previous Woodland Strategy was very successful in promoting woodland creation, stimulating the development of new farm woodlands proved difficult. Despite favourable rates delivered through the locational premium only 42ha of additional farm woodland was created between 2003 and 2008.

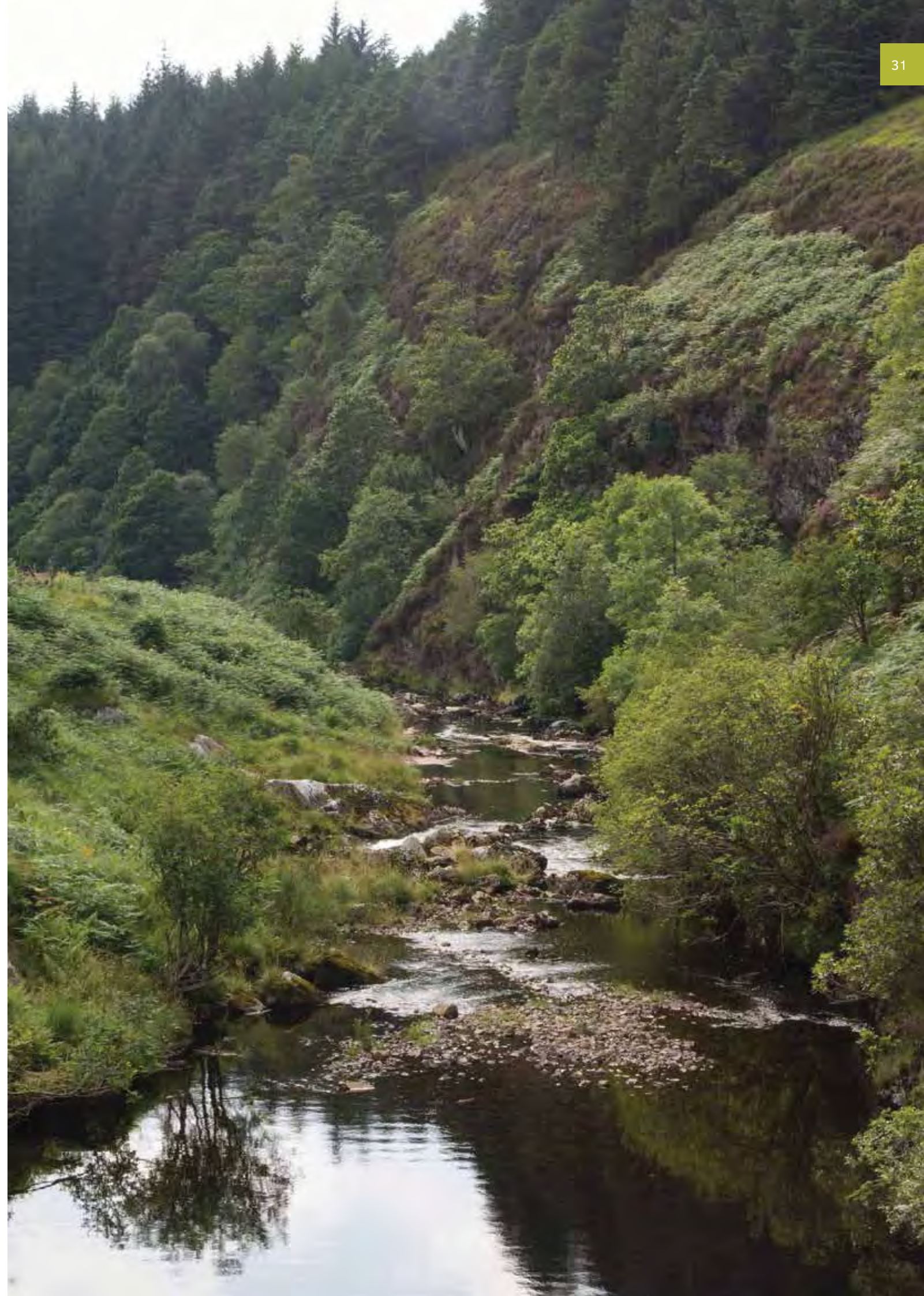
Farming practices and rural support will evolve significantly over the coming decades – and farm forestry needs to be positioned to support this change. Land capability and values are likely to increase as a result of climate change, potentially further reducing the economic case for farm forestry. However, 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 could help to mitigate the effects of floodwaters and also help to separate stock from watercourses, contributing to a reduction of diffuse pollution and impacts on river morphology¹¹. Again, understanding how woodlands 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 better quality land under arable agriculture, protecting the integrity of the soil resource by preventing wind and water erosion should be the priority. Prime agricultural land (in Ayrshire, Class 2 and 3.1) is classified as 'sensitive' to new woodland for the purposes of this Strategy. This means that planting proposals in this area should incorporate the highest standards of planning and design.

Ayrshire's largely pastoral agricultural economy has not resulted in the level of field boundary loss seen in comparable areas of Scotland. Although eroded in places, the 18th-19th century landscape structure created by hedges and field trees remains and can readily provide the framework for appropriate expansion.

Mixed woodlands are also frequently located in and around Ayrshire's towns and villages, creating opportunities for new development to enhance existing and deliver new resources as part of well-designed landscaping schemes. In addition, there may be potential to enhance existing mixed woodlands found in parks and gardens, and to deliver expansion in under-used open spaces where this accords with community aspirations and relevant Open Space / Greenspace strategies and Local Development Plans.

¹¹Four major Ayrshire rivers (Ayr, Doon, Irvine and Garnock) and the coastline, are identified as 'priority catchments' for diffuse pollution in the Scotland River Basin Management Plan.



Woodlands for regeneration

Some of Ayrshire's communities are amongst the most deprived in Scotland. While the region shares the legacy of post-industrial decline with much of central Scotland, the relative isolation of many former mining communities frequently serves to exacerbate issues of exclusion and deprivation.

The potential of woodland, as a component of well-planned green infrastructure, to help improve local environmental quality, contribute to placemaking and quality of life is well understood. Ayrshire lies within the Central Scotland Green Network area which, along with the WIAT programme and SRDP, offers a potential source of funding for woodland creation in degraded areas. New planting can help transform the character and perceptions of such areas as well as stabilising slopes and stream banks and reducing diffuse pollution.

In addition to national programmes, local structures – such as East Ayrshire Woodlands – have a key role to play in making the links between communities, the woodland resource and funding opportunities.

Woodland and forestry also have an important role to play in supporting tourism and heritage-led regeneration.

Managing the existing resource

As noted above, a significant proportion of woodlands around towns and villages is undermanaged and, as such, does not make an optimal contribution to environmental quality or residents' quality of life. Assisting communities to engage with their woodlands so that they can help set the priorities for management and enhancement will be a key step in ensuring woods deliver a range of benefits over the longer term.

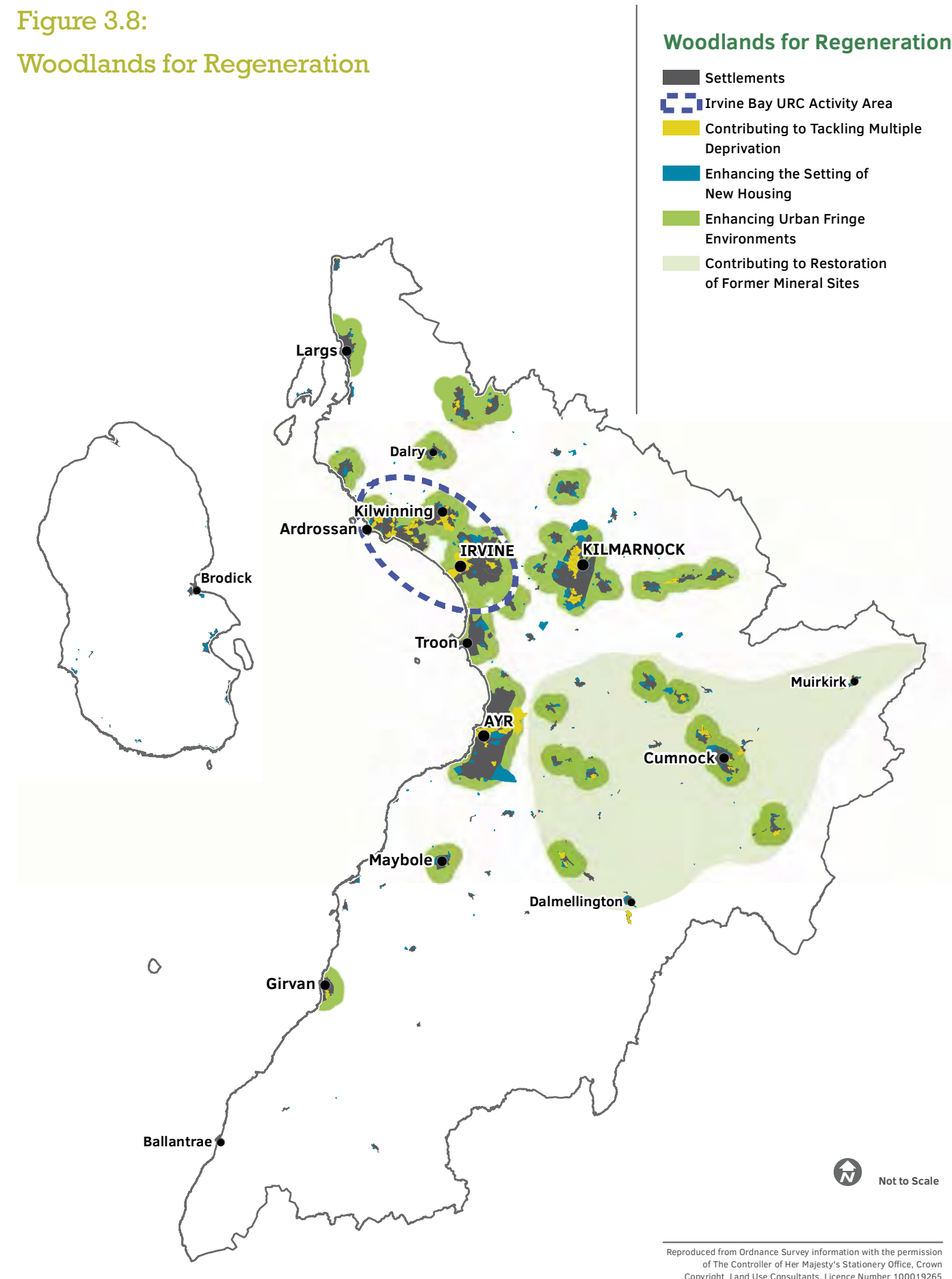
Potential for expansion?

With the exceptions of Kelburn, Eglinton and Dean Castle Country Parks, there are relatively few accessible large woodlands close to larger settlements, reducing the potential for recreational use. Therefore ensuring these sites maximise their potential is critical. Similarly, woodland delivered through proposed development and as part of enhanced green infrastructure – for example, delivered through the Irvine Bay urban regeneration company – has a key role to play in improving urban environments.

Woodland can also play a part in remediating vacant and derelict land, and provide a productive use for stalled development sites.



Figure 3.8:
Woodlands for Regeneration



Woodlands for Regeneration

- Settlements
- Irvine Bay URC Activity Area
- Contributing to Tackling Multiple Deprivation
- Enhancing the Setting of New Housing
- Enhancing Urban Fringe Environments
- Contributing to Restoration of Former Mineral Sites

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4 Climate Change

Ayrshire currently emits around 2690 kilotonnes of carbon dioxide per annum¹², representing around 6% of the Scottish total.

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 emissions. They can also help us adapt and become more resilient to the climate changes that are projected to occur over the coming decades.

Reducing greenhouse gas emissions

The Climate Change (Scotland) Act 2009 set greenhouse gas emission reduction targets of 42% by 2020 and 80% by 2050.

Measures to reduce carbon emissions will include:

The substitution of fossil-based fuels with low carbon and renewable energy sources

Improving energy efficiency designed to reduce the demand for fossil fuels

Initiatives to increase the amount of carbon absorbed and retained within the environment

Woodland and forestry should contribute to all three types of response.

Increasing the amount of carbon sequestered by woodland is a national priority. There are two elements to this:

Ensuring that reductions in woodland cover resulting from restructuring¹³ and development are more than compensated by new woodland creation elsewhere within Ayrshire and Arran. Sections 3 and 8 of this Strategy provide strategic guidance on how and where such woodland creation can be accommodated

Expanding woodland cover across Ayrshire and Arran in line with the strategic guidance contained in Sections 3 and 8 of this Strategy. This expansion should avoid areas of high carbon soils

¹² Ayrshire Joint Planning Unit (2010) Monitor 2010: Framework indicators for a sustainable Ayrshire

¹³ Internal re-design of woodlands to meet the UK Forestry Standard is not considered to be 'woodland removal' with regard to the Scottish Government Policy on the Control of Woodland Removal, and therefore does not require compensatory planting

Scotland's peatlands are our most significant carbon store – holding an estimated 1,600million tonnes of carbon – therefore protecting and, where possible, restoring this resource is of strategic national importance¹⁴.

In some cases, existing forests on high carbon soils should not be replanted following harvesting as peatland restoration may be more beneficial with regard to carbon sequestration and wider environmental objectives. Similarly, the policy of encouraging new softwood forests in lower-lying areas may increase productivity as well as reducing effects on sensitive landscapes, species and habitats. In any case, all woodland removal will need to be compensated by new planting elsewhere in Ayrshire and Arran, in line with the guidance provided in this Strategy. The **Galloway and Southern Ayrshire Biosphere** is taking forward a programme of peatland restoration that will have significant interactions with restructuring of existing forests.

Supporting the development of woody biomass as a source of low carbon fuel is a key means of displacing non-renewable energy sources¹⁵. Key priorities include:

Bringing existing woodland into positive management to increase the supply of logs and wood chips

Making full use of residues from thinning and harvesting operations

Establishing energy woodland (short and long rotation coppice) focused on urban fringe, derelict and vacant land, including restored mineral sites where appropriate

Supporting the development of a processing and supply chain

Supporting the development of a market comprising public and private sector organisations and householders, as well as existing large scale biomass users

Other priorities include:

Encouraging the use of timber in construction, particularly where this substitutes high carbon building materials

Facilitating other forms of renewable energy development (e.g. wind and hydro) where this does not result in a net reduction in woodland cover

Encouraging energy efficiency in timber production, transport and processing

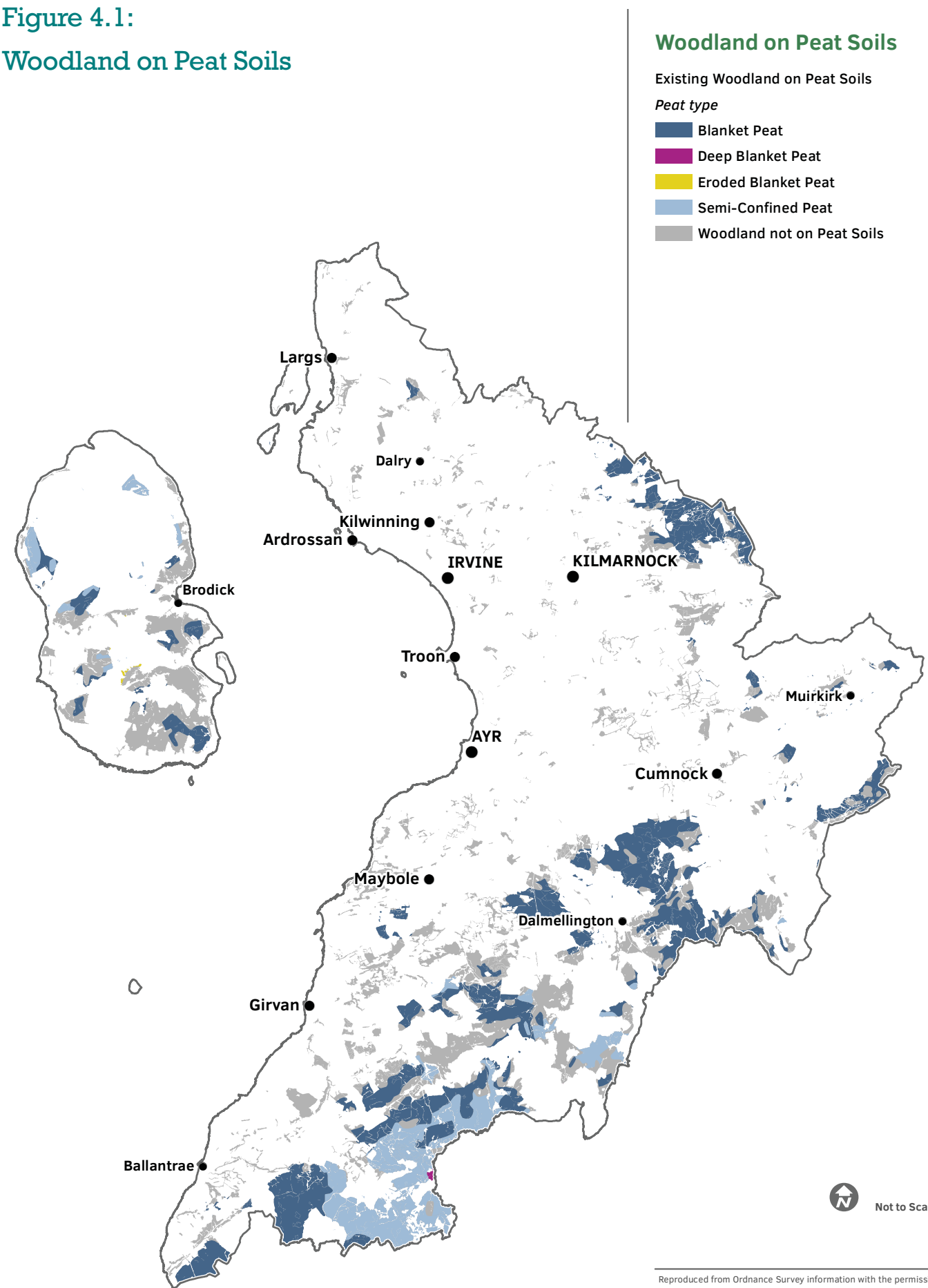
Priorities

CC1	Implement the woodland removal policy, with compensatory planting required within Ayrshire and Arran
CC2	Achieve a net expansion of woodland cover to increase carbon sequestration
CC3	Continue to support development of the biomass market
CC4	Promote the wider use of local timber in construction
CC5	Facilitate renewable energy development
CC6	Encourage energy efficiency in the timber sector
CC7	Encourage the restoration of peatlands during forest redesign and restructuring, in locations with suitable hydrological, soil and vegetation conditions

¹⁴ 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.

¹⁵ It must be noted that woodfuel can only be considered to be 'low carbon' where the equivalent number of trees felled for fuel are replanted to reabsorb the carbon emitted through combustion.

Figure 4.1: Woodland on Peat Soils



Woodland on Peat Soils

Existing Woodland on Peat Soils

Peat type

Blanket Peat

Deep Blanket Peat

Eroded Blanket Peat

Semi-Confined Peat

Woodland not on Peat Soils

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Climate change projections suggest that Ayrshire and Arran will experience milder, wetter winters, warmer, drier summers and rising sea levels. The frequency and intensity of storm events may increase. The area may need to adapt to more frequent flooding and waterlogging in winter and drought in summer. The changing climate will affect the liveability of urban areas and could have a major impact on existing habitats and species.

Adapting to the changing climate

Trees and woodlands have a key role to play in helping Ayrshire and Arran adapt to the changing climate. Equally important is the need to manage existing tree cover to increase its resilience to climate change, and to ensure that new woodlands reflect the kinds of changes likely to occur during the trees' lifetimes.

A key priority is to explore how new woodlands can help reduce the risk of flooding associated with higher rainfall and more intense rainfall events. Woodland has the effect of intercepting rainfall, slowing and reducing the rate at which it runs-off into rivers and watercourses. This can reduce peak river flows and reduce the risk of flooding, or the requirement for investment in engineered flood defences. 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, particularly where rainfall is concentrated in upland areas.

Flooding occurs along most of the main river corridors in Ayrshire, potentially affecting many of the areas towns and villages which tend to be located at bridging points or where rivers reach the coast. This supports the case for appropriate forms of woodland expansion within the plateau moorland and upland areas, and along the transition from lowland agricultural to moorland areas.

Of equal importance is the role that woodlands can play in establishing habitat networks, linking existing areas of woodland and expanding the network into areas with lower amounts of woodland cover. By reversing the process of habitat fragmentation that has occurred over many decades, such networks can help plant and animal populations become larger and more resilient, as well as providing them with the means to migrate as the climate changes. The integrated habitat network (IHN) data set will guide the expansion and linking of woodlands across Ayrshire and Arran. It is likely that new woodlands will be made up of native and mixed woodlands, extending out from woodland cores and along river and burn corridors. Further information on IHN, and data downloads, can be obtained from the **SNH website**.

Woodland can also help reduce soil erosion by reducing surface water runoff and waterlogging in winter and the risk of wind scour during drier summer weather. Trees can help stabilise steep slopes along river valleys and in upland parts of Ayrshire and Arran, reducing the risk of landslides when soils become waterlogged.

Trees also have an important role to play in maintaining the quality of urban environments as the climate changes by providing shelter from prevailing wind and rain and shade from the sun during summer months. Trees can also improve air quality along transport corridors.

While trees and woodland can help us adapt, it is likely that they too will be affected by climate change. Potential impacts could include:

An increase in storm damage, particularly in more exposed coastal and upland areas

Increasing levels of stress as trees have to cope with alternating periods of drought and waterlogging

Increasing prevalence of pests and diseases, and potential spread of invasive species



It is likely that the changing climate will necessitate changes in the way that productive woodland is planned and managed. Higher rainfall and the risk of soil erosion are likely to support the move from clear fell to continuous cover forestry. Higher and more exposed sites may become less suitable for forestry as a result of wind throw.

Without positive management, including planned programmes of replanting, this could result in the loss of veteran and specimen trees in parks and gardens, street trees and field boundary trees. There could also be adverse impacts on the native woodlands along the coastline and main river valleys.

Priorities

CC8	Promote the role of woodland in terms of sustainable flood management, prioritising Potentially Vulnerable Areas ¹⁶ identified by SEPA
CC9	Promote the development of habitat networks to help species adapt to climate change
CC10	Promote the role of trees and woodland in conserving soils and stabilising slopes
CC11	Raise awareness of the role of trees and woodland in improving urban micro-climates
CC12	Adapt forest management practices to climate change and move to continuous cover forestry where appropriate

¹⁶ Areas of high flood risk identified under the Flood Risk Management (Scotland) Act 2009 http://www.sepa.org.uk/flooding/flood_risk_management/consultations/idoc.ashx?docid=673385a2-da60-4bc7-9b89-1c61ba9af2f4&version=-1

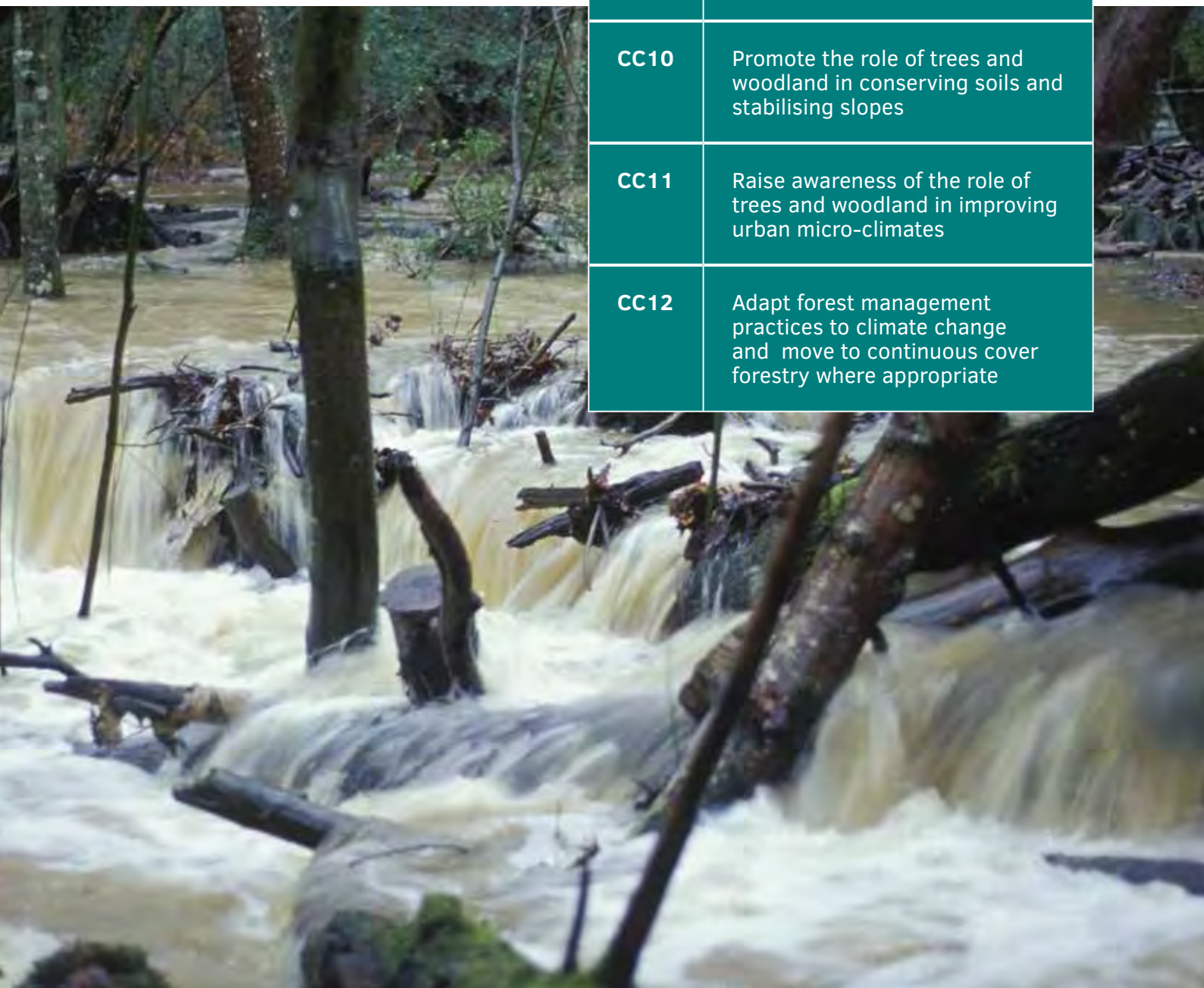
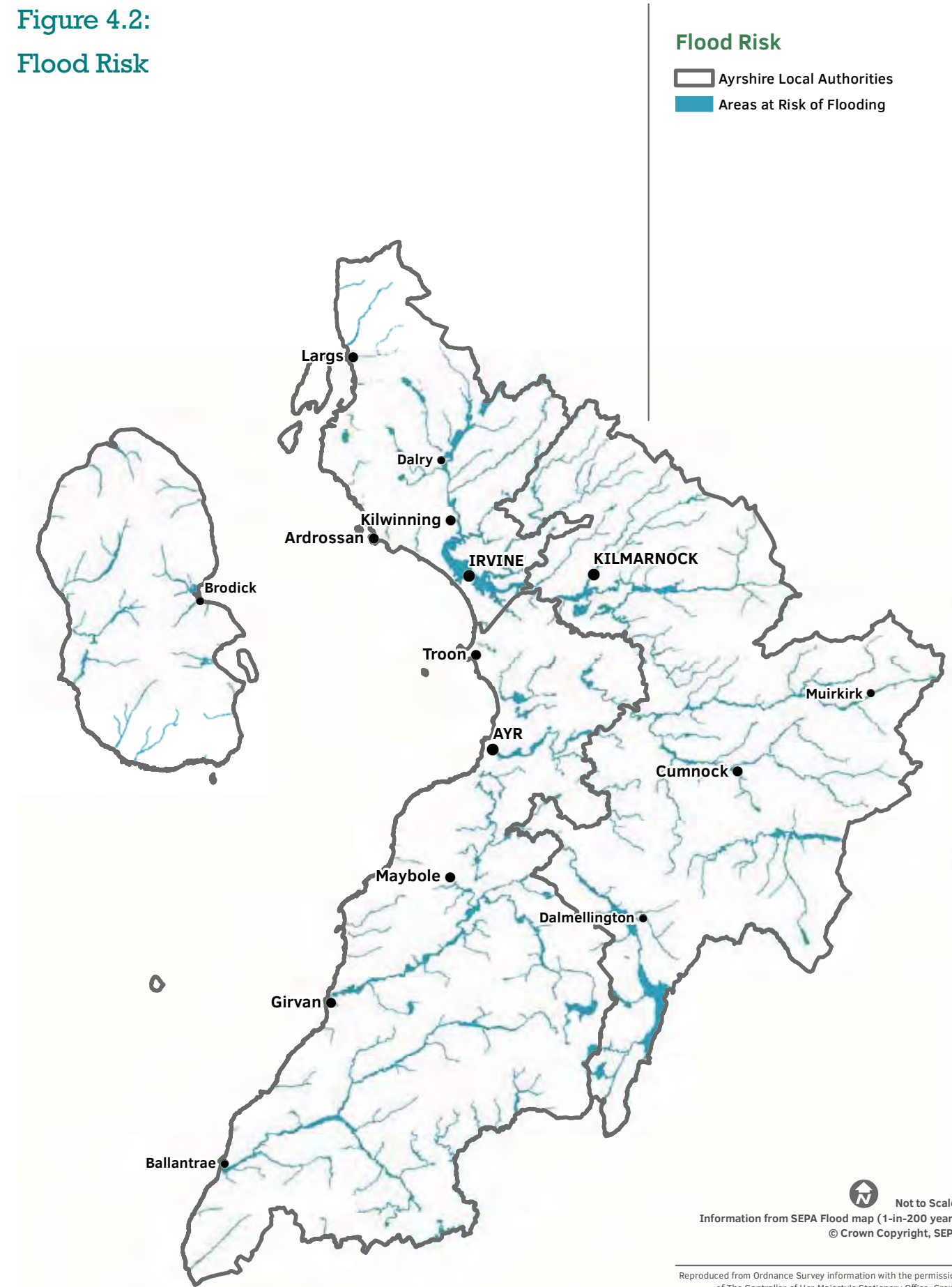


Figure 4.2: Flood Risk



Information from SEPA Flood map (1-in-200 year)
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5 Economic Development

Directly and indirectly, woodland already makes an important contribution to the economy of Ayrshire and Arran. This part of the Strategy aims to enhance this contribution by supporting further development of a healthy timber production and processing sector, developing new markets and recognising the role of woodlands in supporting the wider economy.

Timber production and processing

There is approximately 45,000ha of coniferous woodland in Ayrshire and Arran¹⁷. The majority of this resource is utilised by a small group of well-established, internationally competitive, forest product businesses based in the region, including:

Adam Wilson & Sons Ltd sawmill, located at Troon

Caledonian Paper at Irvine, which makes lightweight coated paper and is owned by UPM Kymmene

Egger (UK) Ltd, which makes particleboard and related value added products, and has a plant at Barony on the outskirts of Auchinleck

¹⁷ Based on the 2011 Forestry Commission National Forest Inventory dataset

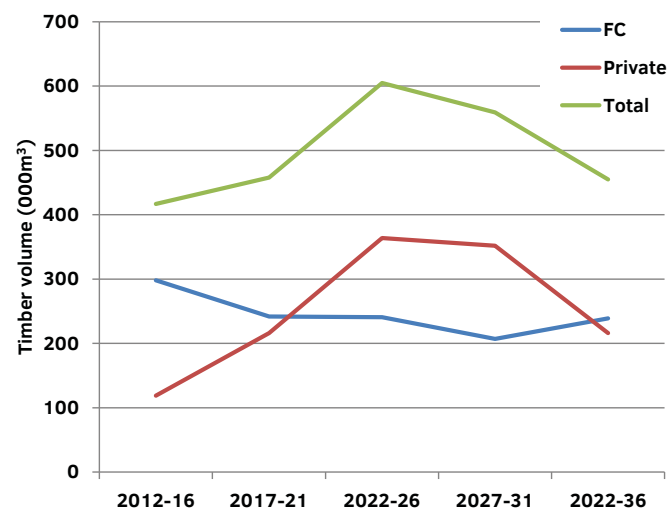
These companies provided employment for approximately 665 people and have a combined annual turnover of approximately £200million. In addition, a study conducted in 2006 identified a further six small family owned sawmills using coniferous roundwood that are located in Ayrshire. Since 2006, Land Energy Ltd has opened a major wood pellet production facility in Girvan which will add to the number of people employed and the turnover of the sector. In 2006, wood processing companies used approximately 800,000 tonnes per annum of roundwood, which is in excess of the potentially sustainable wood supply from Ayrshire & Arran’s softwood forests. The Ayrshire economy therefore benefits from the value added through processing imported raw timber. Many of the larger areas of forest were planted around the same time, meaning that they are reaching the end of their first rotation at a similar time. Forecasts show a very uneven pattern of timber production, with timber volumes climbing to a peak of around 700,000m³ around 2025 before falling away rapidly. This raises particular challenges for the processing sector where capacity is largely fixed, and for the potential value that processed timber can achieve on the market, a challenge that is underlined by recent decreases in woodland cover resulting from restructuring and the woodland removal associated with wind farm development.

In the short term, the peak in production can be smoothed by harvesting a proportion of the timber crop early or late, though this has implications for the yield and quality of timber. In the medium and longer term, a more diversified age class for replanted areas, and a move towards continuous cover forestry both offer potential to create a more consistent pattern of supply. It also further highlights the importance of ensuring that the area of softwood forest is maintained or increased over future years.

A steady supply of harvested timber will help ensure that processing makes best use of material grown in Ayrshire and Arran, and that smaller facilities can operate on a more sustainable footing. It will also help retain key processors within Ayrshire, securing employment and local economic benefits.

The planning process has a key role in facilitating the continued development and diversification of the processing sector.

Figure 5.1: 25-year conifer production forecast



Priorities

ED1	Manage woodland harvesting, restructuring and expansion to provide a more even pattern of timber production
ED2	Facilitate the retention and upgrading of timber processing facilities
ED3	Plan for future timber processing development

Timber transport

The movement of timber throughout the local road network and particularly on unclassified roads can generate significant problems for the local council road maintenance programmes and create tension between timber haulage companies and rural communities.

The Ayrshire Timber Transport Liaison Group was formed in 1998 to address the issues related to timber transport in a holistic and coherent manner. The ATTG has proactively pursued the implementation of the transport actions identified by the Ayrshire and Arran Woodland Strategy 2003, and in 2005 published the Ayrshire Timber Transport Strategy. It brings forward a policy context that enables the sustainable extraction and transportation of timber over the forthcoming years. In recent years, Councils have upgraded public roads used for timber haulage with match-funding provided through the Scottish Government’s Strategic Timber Transport Scheme (STTS). The scheme is administered by Forestry Commission Scotland and collaborative work is on-going towards the preparation of a 10 Year Investment Plan for the future maintenance and upgrade of timber transport routes in line with the 10 Year Forestry Extraction Plan. The ATTG will continue to seek STTS match funding and engage with the timber industry to share ideas and best practice to minimise the impact of timber haulage on the fabric of the road infrastructure and on local communities.



Progress on timber transport issues to date within Ayrshire includes:

Publication of agreed routes map to direct timber traffic onto appropriate routes. The routes are kept under regular review and the most recent revision was published in June 2012

Investigation of opportunities to develop railheads to transfer timber from road to rail

Timberlink – movement of 100,000 tonnes of timber per year by ship from ports in Argyll to Troon (removing one million lorry miles each year from roads)

Shipping of timber from Arran to Troon

Funding package for construction of in-forest haul roads removing 24,000 vehicle movements from the B880 (String Road) and feasibility study looking at opportunities for a dedicated timber loading facility on Arran

Development of wood-fired combined heat and power plant at Dyemill on Arran (which will utilise timber close to source)

Funding approval for road improvements in the Carrick area of South Ayrshire and Arran in North Ayrshire

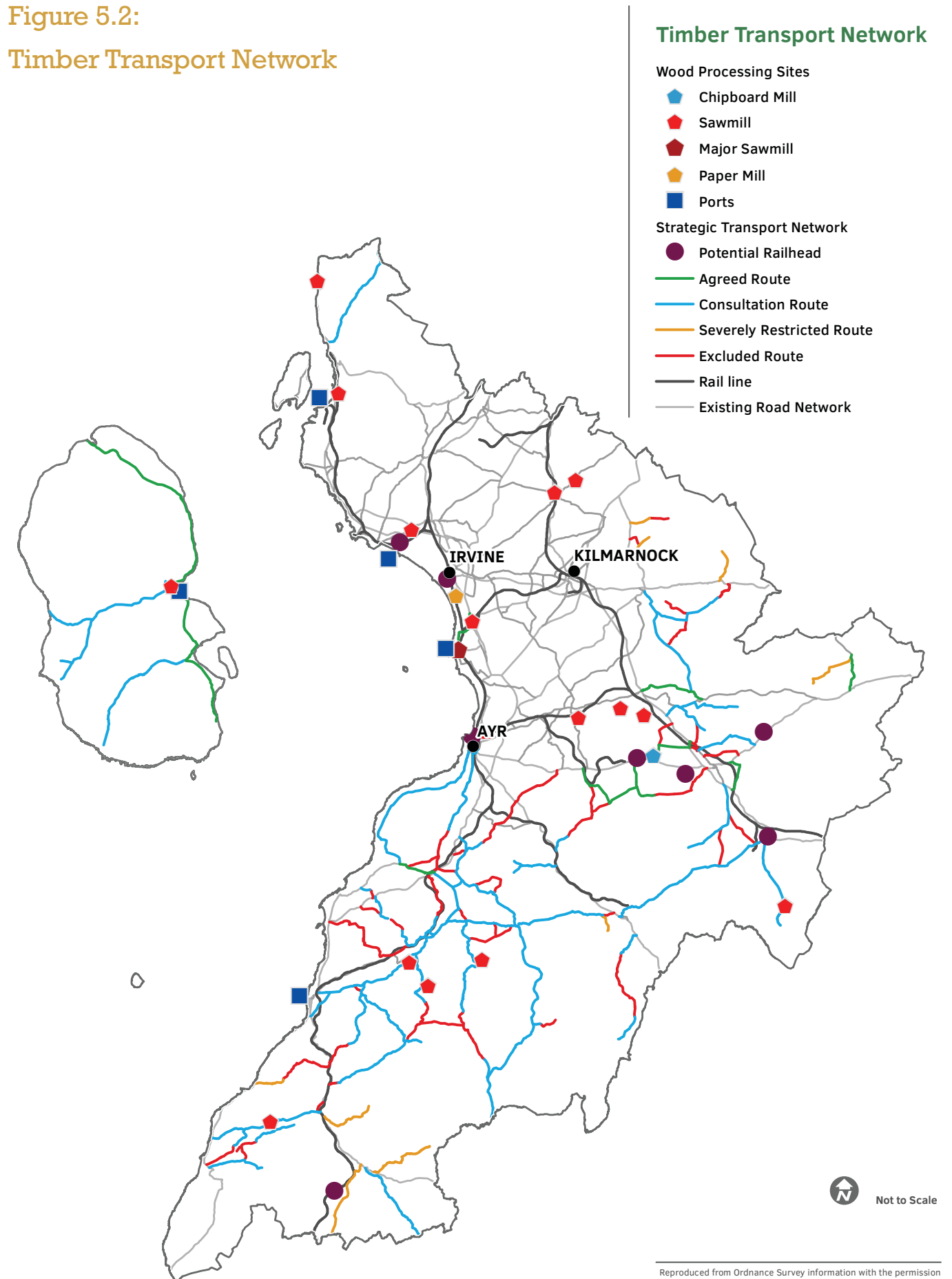
Priorities

ED4	Support the work of the Ayrshire Timber Transport Liaison Group to enable the sustainable extraction and transportation of timber and promote efficiency
ED5	Continue collaborative working between the timber transport industry and public authorities to maintain and implement the Agreed Routes Map
ED6	Develop local solutions based on the use of forest haul roads to avoid sensitive locations
ED7	Continue to explore the potential for alternative transport of timber by rail and water
ED8	Support the retention and use of local timber processing plant and development of appropriate new local processing facilities
ED9	Ensure that proposals for new softwood forests reflect the capacity of the local road network



The timber production forecasts, allied to aspirations for biomass production, suggest that the volume of timber transported will continue to increase in the future. The Ayrshire Timber Transport Liaison Group has a key role to play in continuing to develop innovative solutions to minimise the impact on local communities and to promote efficiency within the timber transport sector.

Figure 5.2:
Timber Transport Network



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Biomass

The Scottish Government has set a target of 11% of heat demand to be met from renewable resources by 2020. The achievement of this target will be assisted by the Renewable Heat Incentive (RHI) which was introduced in November 2011 for the industrial, commercial and public sectors and is a follow on from earlier incentive schemes. The RHI is to be extended to domestic users by spring 2014.

There have been a small number of commercial scale biomass boilers installed in Ayrshire, including the combined heat and power plant at UPM Kymmene papermill at Irvine and the wood pellet-fired heating system at Girvan Community Hospital. More recently, Land Energy have opened a wood pellet manufacturing facility at Girvan which will supply 60,000 tonnes of pellets per annum. The plant itself is powered by a combined heat and power biomass boiler. An application has recently been submitted for a wood-fired combined heat-and-power plant in the Dyemill forest on Arran, making use of locally sourced – and currently under-utilised – woody biomass. In addition E.on operate a 44 megawatt wood-fired electricity generating plant at Steven’s Croft, Lockerbie which is likely to utilise timber produced in Ayrshire as well as elsewhere in Scotland and the North of England.



Demand for woody biomass is forecast to increase significantly within the next three years as a number of commercial scale wood-fired plants are completed across Scotland and through increased demand from pellet manufacturers. The introduction of the RHI will lead to further increases. At the Scottish level, the largest sources of raw materials are softwood brush/branchwood, softwood logs/chips/SRW (50% of total resource) and recycled and waste wood (27%). Other sources include hardwood logs (8%) and arboricultural arisings (5%). Short rotation coppice is insignificant at less than 1%. It is likely therefore that the bulk of the increased demand for wood fibre for commercial scale heat and power plants will be met from the existing commercial woodland resource and harvesting and processing residues.

There are examples in Ayrshire of efforts to increase supply from other sources. The Ayrshire Woodfuel Forum brings together private and public sector organisations and individuals to promote both the supply of and demand for woodfuel. A consortium of estates has formed the Ayrshire Woodfuel Group which aims to utilise their own undermanaged woodlands to supply wood chip. EADHA Enterprises have been awarded funding from the Central Scotland Green Network Development Fund to trial Aspen on former opencast coal sites in the East Ayrshire coalfield area. In addition to enhancing the ecology and landscape of the area, the project will also study the potential for establishing community-based woodfuel supply chains using the future timber resource.

Domestic fire logs are supplied by a variety of small to medium sized companies in Ayrshire utilising timber arising from tree/woodland maintenance work. The availability of the Renewable Heat Incentive for domestic properties suggests a growing market for fire logs and opportunities therefore to bring more woodland into active management and generate jobs in the supply chain.

Further development of the biomass market in Ayrshire and Arran requires three main components to be in place:

An increase in the supply of woody biomass from existing woodland, forest management operation and new energy forests

An efficient processing and distribution chain, linking relatively local sources of biomass with nearby sources of demand

A viable market for woody biomass, with public sector organisations and large companies investing in boilers and combined heat and power plant in order to pump-prime the sector

Priorities

ED10	Increase the area of existing woodland that is managed to provide woodfuel
ED11	Encourage the creation of new energy woodlands on derelict and vacant land and in locations close to sources of current or potential demand
ED12	Facilitate the development of woodfuel processing and distribution infrastructure
ED13	Support the creation of a market for woodfuel by investing in biomass boilers, specifying combined heat and power units and raising awareness among developers, social enterprises and householders

Economic investment and regeneration

There is increasing recognition that a good physical environment plays an important role in stimulating economic investment and attracting and retaining a skilled workforce. Ayrshire, like much of Central Scotland, is faced with a legacy of former industrial sites, areas affected by mineral working and degraded urban fringe landscapes. At the same time, there is a need to grow local companies and attract new investment into the area in order to grow and diversify the local economy.

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. On large derelict sites, or land awaiting development, woodland planting can help create a high quality landscape within which future development can be set. Bodies such as East Ayrshire Woodlands are already demonstrating the social and economic value of enhancing degraded environments, but there is significant potential for the sector to assist in driving regeneration.

In some locations there may be potential to establish temporary woodlands, including energy crops, on land intended for future development, thus creating a positive use and a potential source of income.

Priorities

ED14	Use new planting to enhance derelict and degraded land, including former industrial and mineral sites, urban fringe landscapes and stalled development sites
ED15	Use woodland planting and management to improve the environmental quality of key investment locations
ED16	Prioritise woodland planting in advance of development to create a high quality landscape framework, integrate development into the wider landscape, link into habitat networks and contribute to sustainable flood management
ED17	Highlight the potential of development to support the creation and consolidation of green networks, including delivery of the woodland component of the Central Scotland Green Network



Tourism and recreation

Woodlands already contribute to Ayrshire and Arran’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.

There is significant potential to increase this contribution by expanding the range of woodland-based recreation available in Ayrshire and Arran. Recent analysis of the Galloway and Southern Galloway Biosphere Reserve (which includes a number of different habitats) suggested that public sector investment in the project could yield returns of between 4:1 and 9:1 over a ten year period – much of which is projected to be delivered through tourism.

Currently, around 750,000 trips are made to the region each year, accounting for around £200million of direct expenditure and nearly 13,000 jobs¹⁸, with previous studies attributing up to 20% of this benefit to wooded landscapes¹⁹. However, most stays are relatively short and ensuring woodland-based attractions contribute to increasing duration of stays, and value added, is a regional priority.

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 Culzean and Kelburn Castles. Wildlife tourism is also increasingly important nationally, therefore unlocking the potential of Ayrshire and Arran – particularly as the Biosphere Reserve raises the profile of the area – is of regional importance.



¹⁸ VisitScotland West of Scotland tourism statistics <http://www.visitscotland.org/pdf/Tourism%20in%20Western%20Scotland%202010.pdf>, accessed 20/10/2011

¹⁹ John Clegg Consulting Ltd; Laurence Gould Partnership Ltd; Cawdor Forestry Ltd (2006) Ayrshire & Arran Woodlands: their present and future contributions to the diversification of the rural economy, A report to the Ayrshire and Arran Woodlands Partnership.



The area is likely to continue to experience significant landscape change, as large-scale wind energy projects reach completion and major woodland restructuring changes the appearance of many upland landscapes. Capturing the best value from this change in terms of contributions to access, recreation facilities and tourism potential is therefore a priority. Working with local and national stakeholders, there is potential to build on the following strategic opportunities (depicted in **Figure 5.3**):

The access, recreation and educational potential provided by Whitelee forest and wind farm

The access and recreation potential of changes to the Arecleoch forest as a result of wind farm development

The large-scale landscape change underway in southern Arran, as large areas of softwood forest are harvested, restructured or more open landscapes restored – creating significant potential for access enhancement

Creating a visitor centre in Ayrshire for the Galloway Forest Park and the Galloway and Southern Ayrshire Biosphere Reserve, improving links into Ayrshire and the Glasgow conurbation

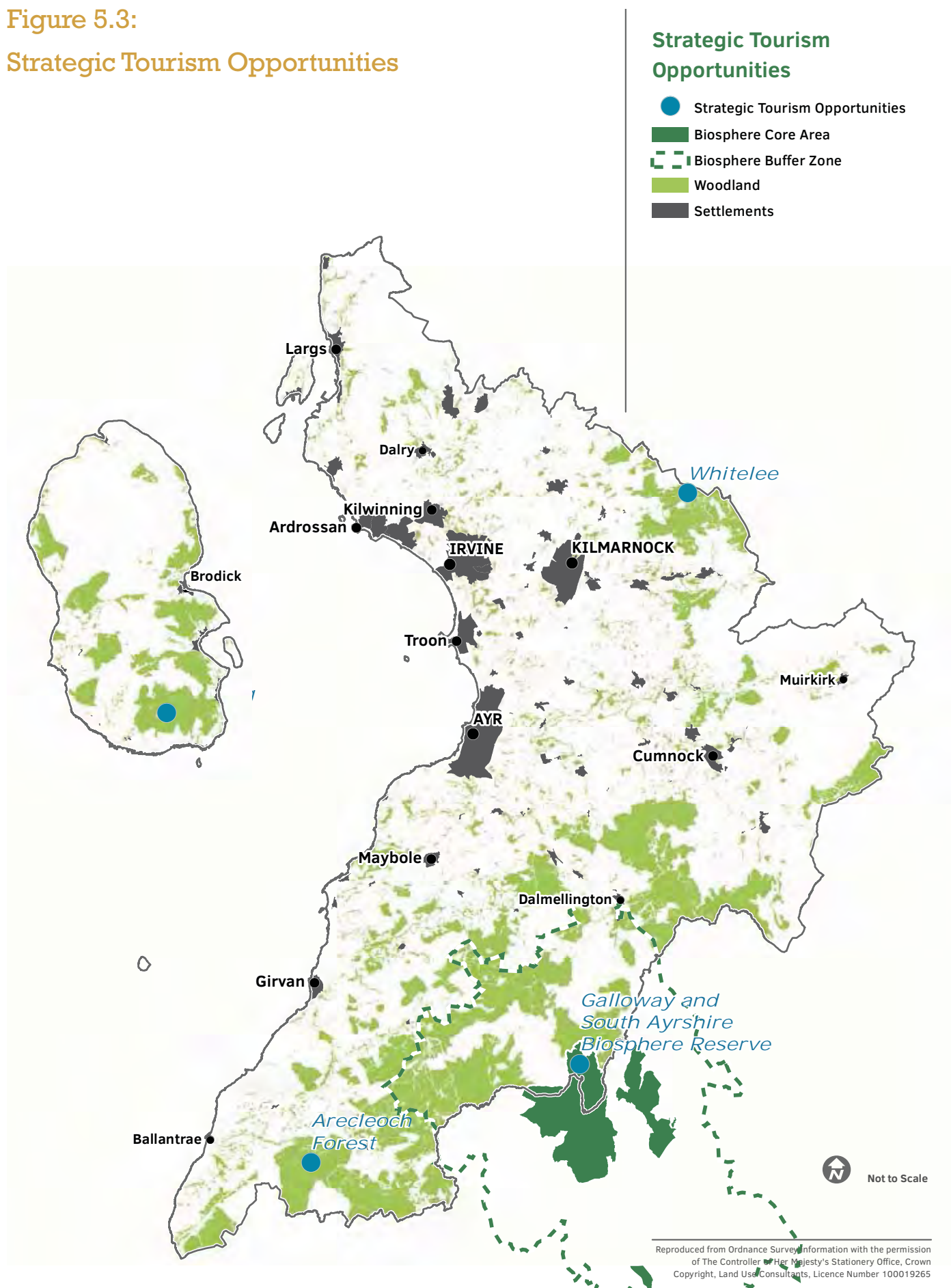


Many other forests and woodland in Scotland include nature trails, cycle routes, interpretation facilities and sculpture parks. Developing and promoting woodland-based attractions as part of Ayrshire and Arran’s tourism offer will optimise benefits for the local economy. However, it will be necessary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

Priorities

ED18	Further develop the role of woodlands and forests in supporting the tourism sector across Ayrshire and Arran
ED19	Optimise the contribution of existing and proposed attractions in woodland settings to the development of eco-tourism in the region
ED20	Encourage the development of strategic links between key attractions, optimising the potential for combined marketing and promotion

Figure 5.3:
Strategic Tourism Opportunities

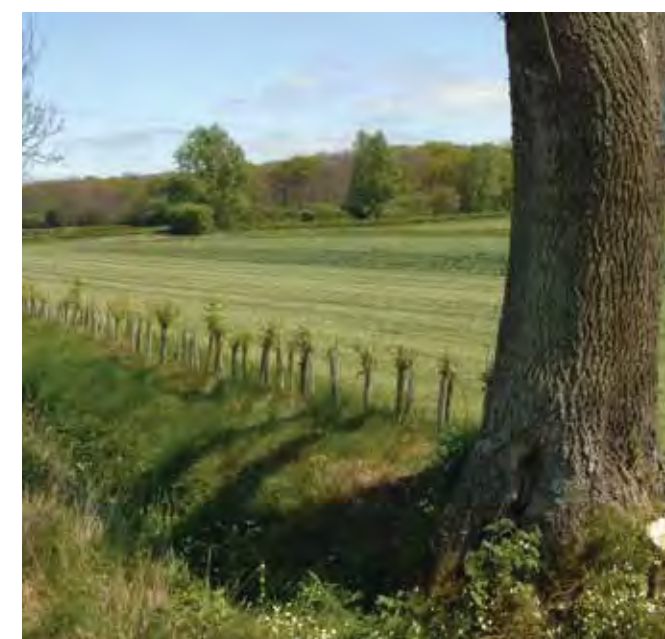


Rural diversification

Agriculture remains an important activity throughout much of Ayrshire, pastoral farming characterising much of the Ayrshire basin, with a distinctive pattern of fields, hedges and small farm woodlands.

Encouraging the positive management of these existing woodlands in order to increase their resilience, biodiversity and contribution to landscape character is a priority. Managed woodland can also create a source of woodfuel and timber for local use.

New farm woodlands, comprising copses, shelterbelts and field boundary trees could further expand these benefits, helping to diversify rural incomes, providing a source of low carbon woodfuel, contributing to habitat networks and sustainable flood management, absorbing carbon from the atmosphere and creating shelter and shade for animals and crops. 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.



Woodlands can also provide a range of produce and products not related to timber or woodfuel. 'Non-timber Forest Products' (NTFP) comprise any product of biological origin – other than wood – derived from woodlands and trees, and can range from fungi, berries and game to sap, pharmaceuticals and decorative foliage. While the business development opportunities available within this sector may cater to particular niche markets, the diversity of produce delivered by woodlands creates real scope for diversification. However, it should be noted that the law concerning woodland produce is often complex, particularly where material is collected by parties other than the landowner. Deer and other game, as well as eco-tourism, are covered by separate legislation and policies, but landowners and prospective commercial users of NTFPs should consult the **Scottish Government Policy on NTFP**. This will help ensure they are aware of the legal position, and plan their activities within appropriate environmental limits.

Priorities

ED21	Encourage the positive management of existing farm woodlands to provide a range of local economic and environmental benefits
ED22	Work with land managers to encourage the integration of woodland planting on farm enterprises with the aim of diversifying incomes and delivering a range of economic and environmental benefits
ED23	Support the development of markets for, and promotion of, non-timber forest products
ED24	Support the continuation and expansion of existing training initiatives linked to woodland creation and management

6 Communities and Quality of Life

Recent decades have seen improvements in the economic circumstances of the region's population. However, on many counts - particularly in relation to health and well-being - Ayrshire still lags behind the Scottish average.

The Strategy aims to maximise this contribution under the following priority objectives:

Improving local landscapes

Supporting active travel, recreation and healthy lifestyles

Involving and empowering local communities

Developing education and skills

Trees and woodlands can contribute to quality of life, supporting the development of healthy and sustainable communities. In part this is about improving the environmental quality of our towns and villages. It is also about providing people with new ways to become involved in the planning, management and ownership of woodlands, and maximising the benefits for active recreation, education, training and the development of social enterprises.

Improving local landscapes

Like many other parts of Central Scotland, Ayrshire'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 one means of focusing environmental enhancement where it is needed most.

The importance of improving quality of life by enhancing urban and urban fringe environments is reflected in the Forestry Commission Scotland's Woods In and Around Towns (WIAT) programme.

This scheme applies to areas within 1 km of communities with a population of 2000 or more. It supports the management of neglected woodlands, the creation of new woodlands and projects designed to help people make more use of their local woodlands. It can deliver a wide range of benefits including improved opportunities for active recreation, habitat enhancement, the creation of new sources of woodfuel, or contributions to sustainable flood management. Measures to achieve environmental enhancement are accompanied by an emphasis on involving communities and reconnecting them with their local area.

Ayrshire's long history of mineral working (coal, aggregates and hard rock) means that there are significant areas of vacant, derelict or degraded land beyond the WIAT area. Key concentrations are focused around Muirkirk, Cumnock and Dalmellington in East Ayrshire where recent decades have seen extensive open cast mineral extraction. While the quality of site restoration has improved, there are significant opportunities for environmental enhancement, particularly close to coalfield communities. Projects such as the East Ayrshire Community Initiative, East Ayrshire Woodlands and the Coalfields Communities are tackling the legacy, regenerating communities, restoring landscapes and creating new habitats. New native, softwood, mixed and energy woodlands can make an important contribution to these projects, securing environmental improvement, new opportunities for community involvement and sustainable sources of income and employment.

Priorities

QL1	Prioritise woodland creation and management in WIAT areas
QL2	Develop a strategy for woodland expansion in former mineral working areas, using native, mixed, softwood and energy forests to improve degraded landscapes and create new opportunities for employment

Education and training

There is a strong relationship between people's educational attainment and levels of employment and income. Woodland can provide a valuable resource whether providing a setting for school years education, vocational training or lifelong learning.

The Forest Education Initiative aims to increase the understanding and appreciation of the environmental, social, and economic potential of trees and woodlands and of the link between the tree and everyday wood products. The initiative has promoted the concept of Forest Schools 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. Woodlands can also provide an opportunity for wider environmentally-based education, particularly where eco-schools have been established. The Rozelle Estate in South Ayrshire has been used as a pilot project for an outdoor nursery.

Woodlands can also provide opportunities for volunteering and training, with the aim of providing a pathway towards employment. This could be particularly important in existing and new woodlands close to settlements, in

the development of the biomass sector and in areas where habitat or landscape enhancement is being prioritised. There may be opportunities to build partnerships with training organisations and intermediate labour market initiatives, or to establish community-based social enterprises based around woodland products and woodland management. The Forest Education Initiative also promotes rural skills and vocational training accredited under the auspices of the Scottish Qualifications Authority. East Ayrshire Woodlands (EAW) is an important provider of local training opportunities, and manages an intermediate labour market programme in forestry skills, helping long term unemployed people into forestry careers. EAW, along with the Scottish Wildlife Trust and the East Ayrshire Coalfield Environment Initiative, also deliver a range of educational, volunteering and work experience programmes including Forest Schools, helping young people connect with and understand woodlands and the natural environment.

Priorities

QL3	Support the Forest Education Initiative in increasing the role of woodland in education
QL4	Raise awareness of the role of woodlands in supporting eco-schools and other formal education
QL5	Develop opportunities for volunteering and training associated with woodlands





Access, health and well-being

Recent years have seen a growing recognition that active outdoor recreation and exercise can make a significant contribution to health and well-being, helping to tackle obesity and improve people’s physical and mental health. Walking and cycling can also contribute to sustainable travel, reducing the impacts associated with motorised transport. Woodlands can provide important opportunities for outdoor recreation and can accommodate core paths, longer distance walking and cycling routes and facilities for mountain biking and other woodland-based outdoor challenges. A number of woodland attractions in the region are already well-used for formal and informal health-improvement initiatives, including:

Galloway Forest Park and the Kite Trail

Eglinton Country Park

Innovative ‘**Branching Out**’ programmes for adult users of mental health services, combining conservation activities, exercise, environmental art and ‘bushcraft’ skills to build confidence, self-esteem and physical well-being – delivered in partnership by Forestry Commission Scotland the Clyde Muirshiel Regional Park

There is a key opportunity to develop practical partnerships between woodland owners and managers, the three access authorities and NHS Ayrshire and Arran with the aim of targeting, developing and promoting woodland-based recreation provision where it is most needed. Core Plans, Open Space Strategies and forest plans will play a key role in bringing such projects forward.

Priorities

QL6	Use woodland management and creation to create high quality opportunities for outdoor recreation close to where people live
QL7	Target new access provision in areas with high levels of multiple deprivation and poor levels of access to outdoor recreation
QL8	Involve woodland managers, access authorities and NHS Ayrshire and Arran to focus activity and promotion where it is most needed

Community involvement in woodland planning, management and ownership

Publication of the Scottish Forestry Strategy in 2006 signalled a new emphasis on engaging and involving communities in the process of woodland planning and management. In part this is about achieving a more effective dialogue between forest managers and communities where woodland expansion, management, harvesting and transport could affect local people. It also aims to encourage communities to become more involved in managing and ultimately owning local woodland. This can open up recreation opportunities and the potential to establish community owned businesses. It can also contribute to a high quality environment and foster a local sense of pride which can discourage vandalism and anti-social behaviour.

Achieving effective community involvement in the existing forestry planning process is a key priority. This can be achieved by clearly stating the requirement for community engagement as a condition of grant award, and by identifying the key stages at which consultation should be carried out. Equally, woodland managers should be trained to ensure they have the skills necessary for effective consultation.

A further priority is to explore the potential to create new community woodlands in and around towns and villages across Ayrshire and Arran. These may be based around existing woodlands, or associated with new native or mixed woodlands around the urban fringe. While some communities will be open to the idea of community woodlands, in other cases suitable organisations may not exist, or people may not appreciate how communities can benefit from such projects. In such cases a partnership between forest managers and community development officers can help explain and explore the concept and develop the necessary capacity to take the project on at a local level. East Ayrshire Woodlands has been instrumental in assisting the establishment of

community woodlands across the region. Other recent developments have included the community purchase of woodland adjacent to Muirkirk.

The establishment of community woodlands can lead to community ownership and, in some cases, significant changes in the way that woods are managed. In many cases woods are developed as a local recreation resource, or managed to enhance local biodiversity. There are a growing number of community orchards, providing a source of health food, a potential source of income and a range of social and community benefits. There are also examples of communities managing their woodlands to provide a source of woodfuel, creating training and employment opportunities, an income for the community and low carbon fuel for local households and businesses. Communities are likely to need training, advice and ongoing support.

Priorities

QL9	Provide forest managers with the training required for effective community engagement
QL10	Ensure communities are engaged in the process of planning woodlands and forests
QL11	Support the development of community woodlands, including community ownership of local woodlands
QL12	Provide training, advice and support for communities owning and managing local woodlands
QL13	Support community initiatives to establish social enterprises associated with woodland and forests

7 High Quality Environments

Ayrshire and Arran benefit from a rich natural and cultural heritage which provide 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.

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.

Landscape character

Trees and woodlands are an integral and widely valued part of Ayrshire's landscape.

The lowlands have a distinctive pattern of pastoral fields, enclosed by hedges and woodlands and drained by a series of often well wooded and incised river valleys

To the east, the land rises to form a series of gently sloping plateau moorlands, some of which include extensive conifer plantations

To the south the hills rise more steeply towards the rounded summits of the Southern Uplands. While native woodland is concentrated along deep valleys and dales, some of the higher areas are occupied by large softwood forests

To the north lie the largely unwooded hills of the Clyde Muirshiel Regional Park, extending north into Inverclyde and Renfrewshire

The coastline of Ayrshire combines low-lying dunes and estuaries with sections of rocky, raised beach coast, where former cliffs are often marked by wind trimmed native woodlands

The Isle of Arran combines a dramatic and nationally designated upland landscape with lower, sometimes forested hills and a craggy coastline

Many parts of Ayrshire benefit from the policy woodlands, avenues and parklands associated with historic gardens and designed landscapes. Some have fallen out of management and many have trees that are mature or over-mature

Trees and woods are also a vital component of Ayrshire’s urban landscapes with trees along streets, in public parks, private gardens, green corridors and civic spaces all contributing to the quality of towns and villages.

The landscape of Ayrshire has developed over many centuries and continues to evolve as agricultural practices change, renewable energy projects are developed and settlements continue to grow. This Strategy can help ensure that the continuing contribution of woodland to the landscape is reflected in the way that it is managed. It can also ensure that new woodlands make a positive contribution to the area’s distinctive sense of place.

Several areas of the landscape are highly valued, and exhibit a range of sensitivities to change – including new woodland – reflected in the following:

Designation of the remote, mountainous north of Arran as a National Scenic Area

Identification of ‘Sensitive Landscape Character Areas’ in the approved Ayrshire Joint Structure Plan 2007 (Policy ENV2: Landscape Protection)

Identification of ‘Search Areas for Wild Land’ by Scottish Natural Heritage: this applies to the mountains of North Arran and a small area of the Southern Uplands, southwest of Loch Doon. For further information on ‘wild land’, consult the **SNH website**

These sensitivities have been taken into account in developing the spatial modelling underpinning the Strategy (however, as they frequently intersect other sensitive areas, they are not always individually visible).

Priorities

ENV1	Support the ongoing restructuring of existing conifer plantations to achieve a better fit with the landscape
ENV2	Encourage the positive management of lowland trees, farm woodlands and shelterbelts in recognition of the contribution they make to the agricultural landscape, highlighting the role of SRDP in providing funding
ENV3	Encourage the positive management of urban trees including street trees, urban woodlands and trees in parks and private gardens
ENV4	Explore the potential for additional tree planting within urban areas, particularly along road corridors and on underused areas of open space
ENV5	Encourage the positive management of veteran trees, specimen trees and policy woodlands associated with historic gardens and designed landscapes, including the planned replacement of over mature trees
ENV6	Promote the role of trees and woodland in enhancing the character and quality of degraded or damaged landscapes
ENV7	Ensure that new woodlands are designed and located to achieve a good fit with the underlying character of the landscape

Enhancing woodland biodiversity

Trees and woodland already make an important contribution to Ayrshire and Arran’s biodiversity. Native woodlands make up around 14% of the total tree cover in Ayrshire and Arran, over a third of which is classed as being semi-natural in origin. In the lowlands, some of the most valuable woodland habitats are found on steeper slopes within incised river valleys. Examples include the broadleaved, mixed and yew woodlands of the River Ayr Gorge SSSI. Priority woodland habitats identified in the **Ayrshire Local Biodiversity Action Plan** include: upland mixed ash woods; upland oak woods; wet woodlands; lowland wood pasture and parklands; coastal scrub; planted conifers; and, ancient and species-rich hedgerows.

As illustrated in **Figure 7.1**, while Ayrshire and Arran has a significant area of native woodland, this resource is highly fragmented and generally composed of relatively small woods. This poses two issues: firstly, small woods are less capable of supporting functional populations of key species and are less resilient to environmental change; secondly, fragmentation means that species are less able to travel between areas of suitable habitat – either while engaged in normal behaviour or migrating in response to climate effects.

Measures to improve woodland biodiversity focus on the management of existing native woodlands, particularly larger woodlands capable of supporting populations of key species, and the development of habitat networks which could expand and link existing areas of native woodland along river corridors and in lowland parts of Ayrshire. There are also opportunities to establish more extensive areas of native woodland and wet woodland within upland river valleys and on lower hill slopes, subject to other biodiversity interests.

The region’s softwood forests also have the potential to make a substantial contribution to improving the status of woodland biodiversity. Ongoing processes of restructuring will introduce greater connectivity between other habitats, through the creation of networks within the conifer forest, and will significantly enhance the quality of woodland edge habitats benefitting key species such as black grouse. Similarly, the wider adoption of continuous cover techniques on suitable

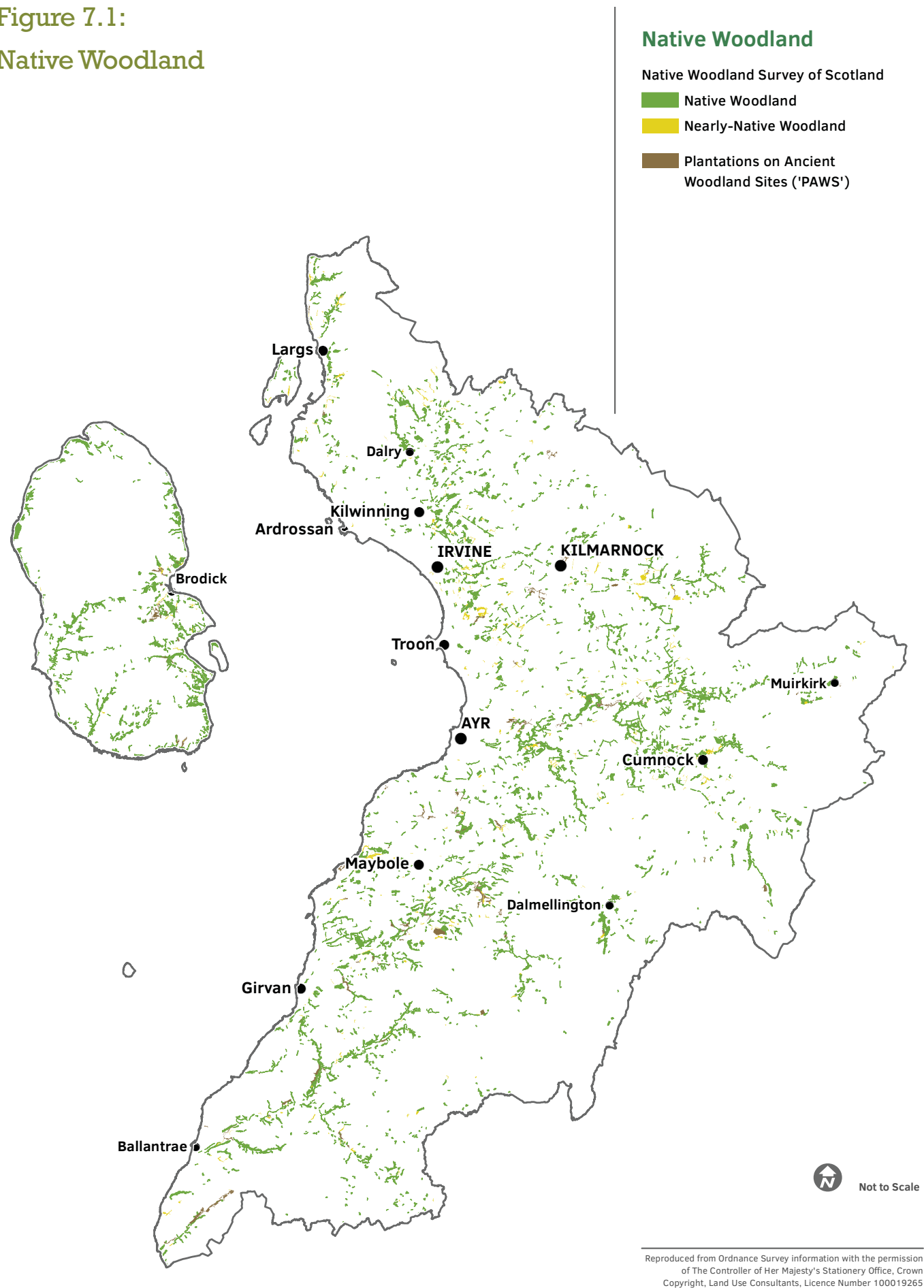
sites can provide a more naturalistic character and promote management of the woodland ecosystem, rather than just the trees.

Priorities

ENV8	Manage and enhance existing native and semi-natural woodlands
ENV9	Promote the establishment of new native woodlands to expand existing assets and contribute to the development of woodland habitat networks
ENV10	Establish new native woodlands in areas affected by mineral extraction and around urban fringes
ENV11	Promote positive management of softwood forests to enhance biodiversity values, including adoption of continuous cover systems on suitable sites



Figure 7.1:
Native Woodland



Conserving important non-woodland habitats and species

Ayrshire and Arran have a range of non-woodland habitats and species, some of which are designated as being of national or international importance. Figure 7.2 shows these designated sites.

Key assets include:

Upland habitats designated for their upland plant assemblages and for bird species including hen harrier. Examples include the moors around Muirkirk, the Arran Moors and parts of the Renfrewshire Heights

Lowland raised bogs designated for their peatland habitats. Examples include the internationally important Cockinghead, Bankhead and Dykeneuk Mosses

Coastal habitats including salt marsh, dunes, shingle, mudflats, lagoons and coastal grassland. There are around 60 designated wildlife sites along the coast

Freshwater habitats such as Loch Doon SSSI

Mountain habitats, specifically the Arran Northern Mountains which are designated for their geology as well as bird and insect species

Information on the key natural heritage interests in the region can be obtained from the SNH 'SiteLink' service and the Ayrshire Local Biodiversity Action Plan.

It is important to ensure that woodland expansion in Ayrshire and Arran does not affect these nationally and internationally important habitats. The design and location of schemes should therefore have regard to designated sites and the Ayrshire Local Biodiversity Action Plan to ensure that adverse effects on protected and priority species and habitats are avoided.

Priorities

ENV12

Ensure woodland expansion does not have an adverse impact on nationally or internationally important non-woodland habitats



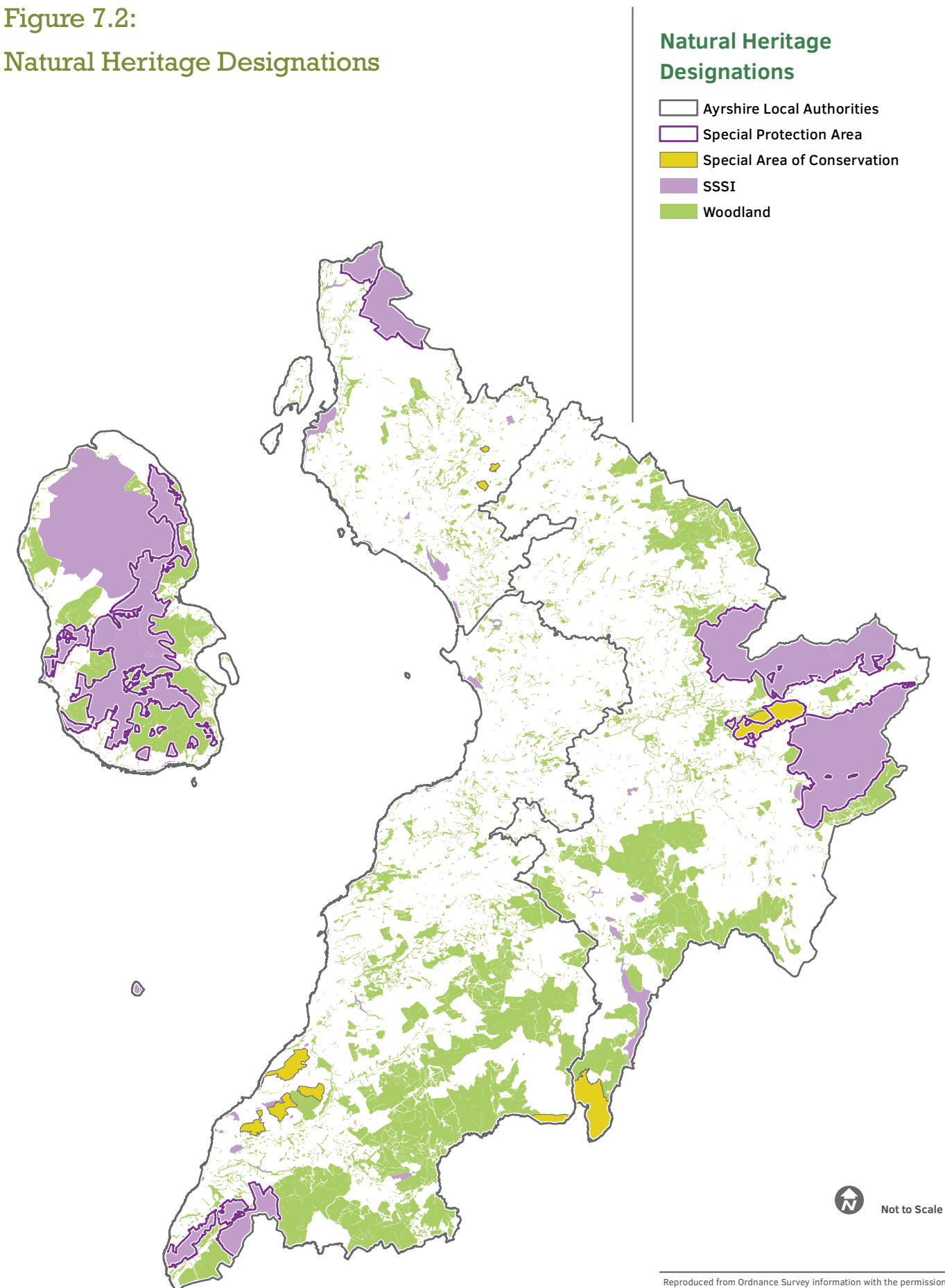
Woodland and the Habitats Regulations

Ayrshire and Arran contains five Special Protection Areas, designated under the EU Birds Directive, and six Special Areas of Conservation designated under the EU Habitats Directive (known collectively as 'Natura 2000 sites'). These areas are of international significance, and are therefore subject to extensive protection under The Conservation (Natural Habitats, &c.) Regulations 1994, as amended – generally known as the 'Habitats Regulations.' Consequently, all of these areas have been included within the 'sensitive' land class in the spatial modelling work undertaken in the production of this Strategy.

The quality and integrity of designated features often depend on ecological features and functions outside the designated area. Article 10 of the Habitats Directive requires member states to encourage the management of features in the landscape that are of major importance to wild flora and fauna, and contribute to the ecological coherence of the Natura 2000 Network.

Proposals for woodland creation or management within, or likely to have a significant effect on the qualifying interests of, a European site should be subject to Habitats Regulations Appraisal.

Figure 7.2:
Natural Heritage Designations



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Conserving historic designed landscapes and veteran trees

Historic gardens and designed landscapes are found across Ayrshire and Arran, often sited within river valleys or in commanding positions on the coast. The region has 13 Inventory-listed gardens and designed landscapes, and a large number of undesignated assets that often make a substantial contribution to landscape quality, character and sense of place. Key examples include Culzean, Kelburn, Brodick, Rozelle, Auchincruive and Loudon. Many of these landscapes are characterised by distinctive policy woodlands, parklands and policies that extend into the surrounding countryside.

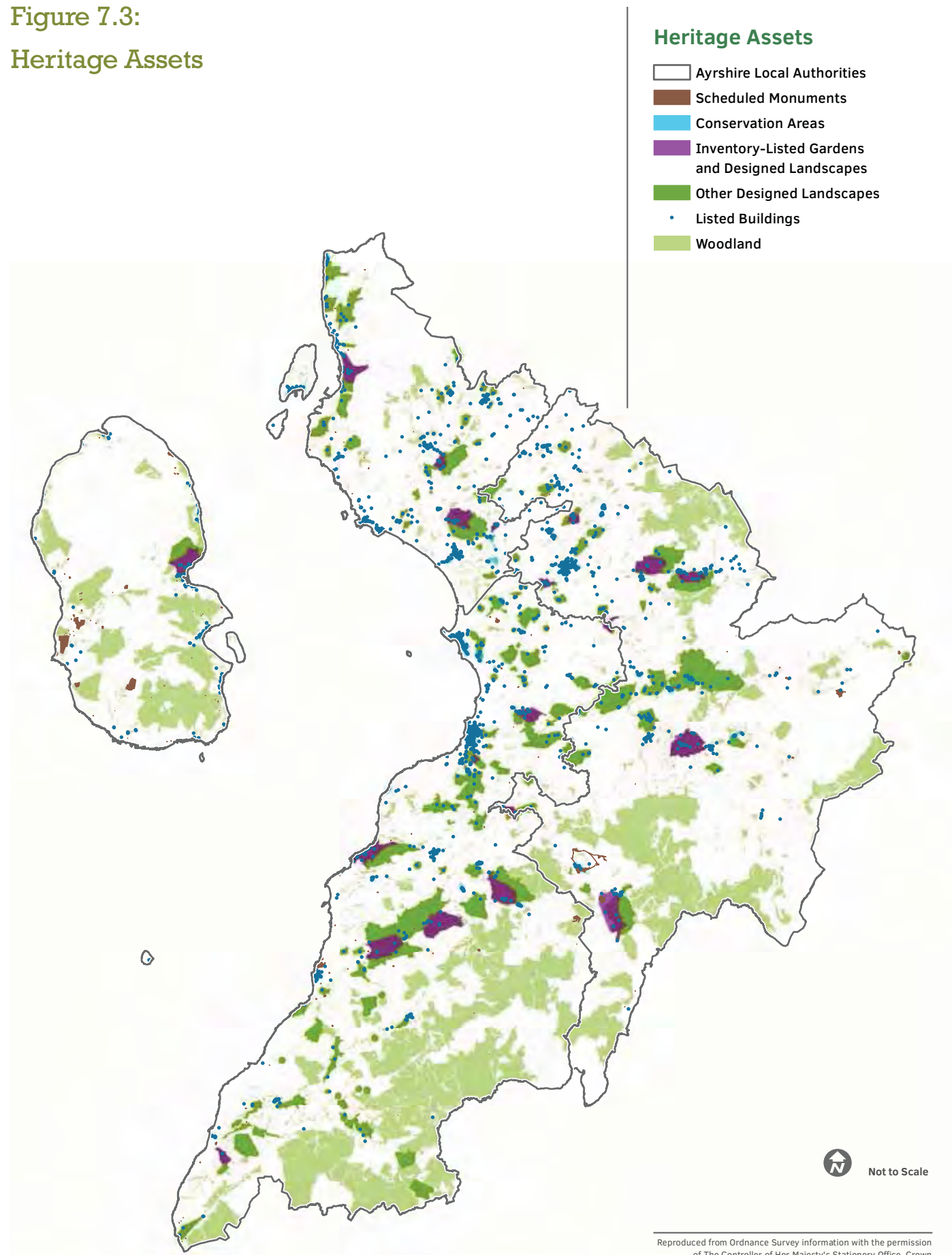
Many of the trees in these historic landscapes are mature or over-mature and in some cases they are suffering due to a lack of appropriate management or from the effects of development. The changing climate could compound these issues as a result of storm damage, stress and disease. Positive management 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.

Priorities

ENV13	Encourage positive management of trees and woodlands within historic gardens and designed landscapes
ENV14	Carry out selective replanting of trees and woods to conserve the character and significance of designed landscapes, and improve their resilience to the effects of climate change
ENV15	Ensure that new woodland planting within or near historic gardens and designed landscapes reflects their historic design



Figure 7.3:
Heritage Assets



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Protecting the historic environment

While trees and woodlands are an important component of many 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.

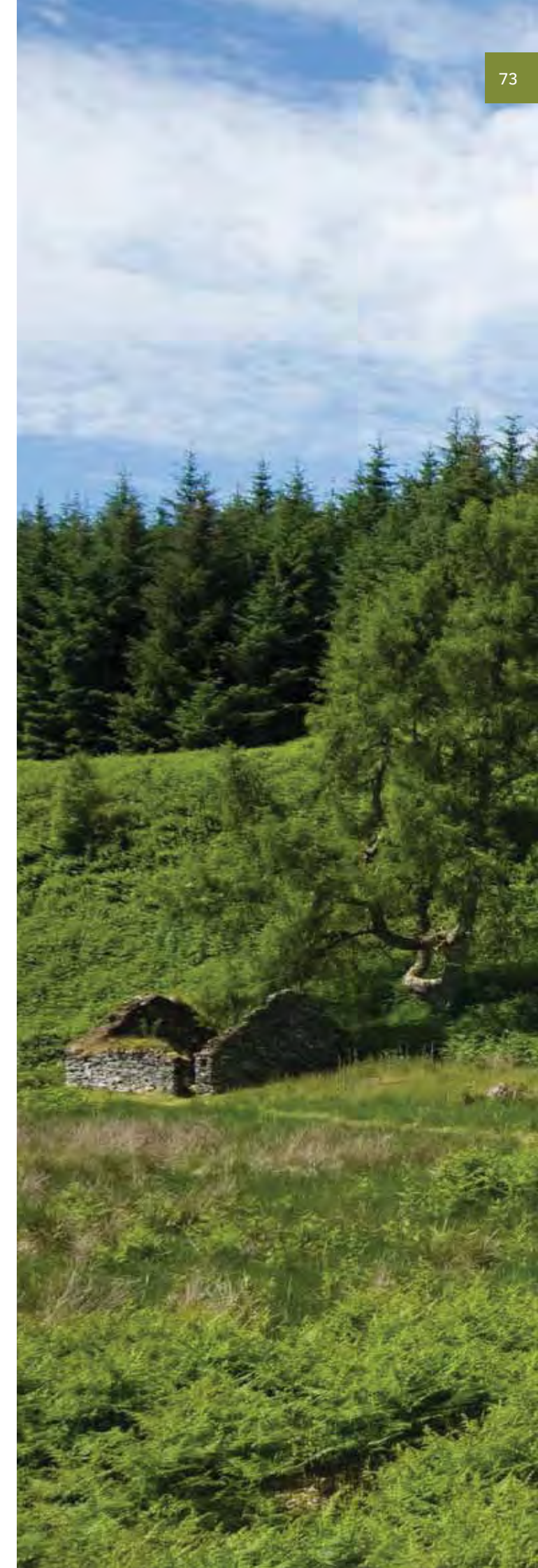
The restructuring of existing areas of softwood forest following harvesting can provide an opportunity to improve the physical setting and interpretation of historic features such as field boundaries and buildings.

Priorities

ENV16	Ensure that new woodlands are located and designed to avoid impacts on the historic environment
ENV17	Use forest restructuring as an opportunity to improve the setting and interpretation of historic features
ENV18	Promote understanding and awareness of trees and woodlands as part of the historic environment

In planning and designing woodland creation and management proposals, land managers should seek advice on the local historic environment from **West of Scotland Archaeology Service**.

Where proposals have the potential to affect Scheduled Monuments, Historic Scotland should be consulted.



Water environment

Implementation of this Strategy is intended to help meet the objectives of the Water Framework Directive and the requirement to achieve 'good ecological status' in water bodies and the riparian zone. Tackling diffuse pollution in the catchments of the rivers Garnock, Irvine, Ayr and Doon (as illustrated in **Figure 7.4**) is a priority in the current Scotland River Basin Management Plan – therefore optimising the contribution of woodland is an important aspect of this Strategy.

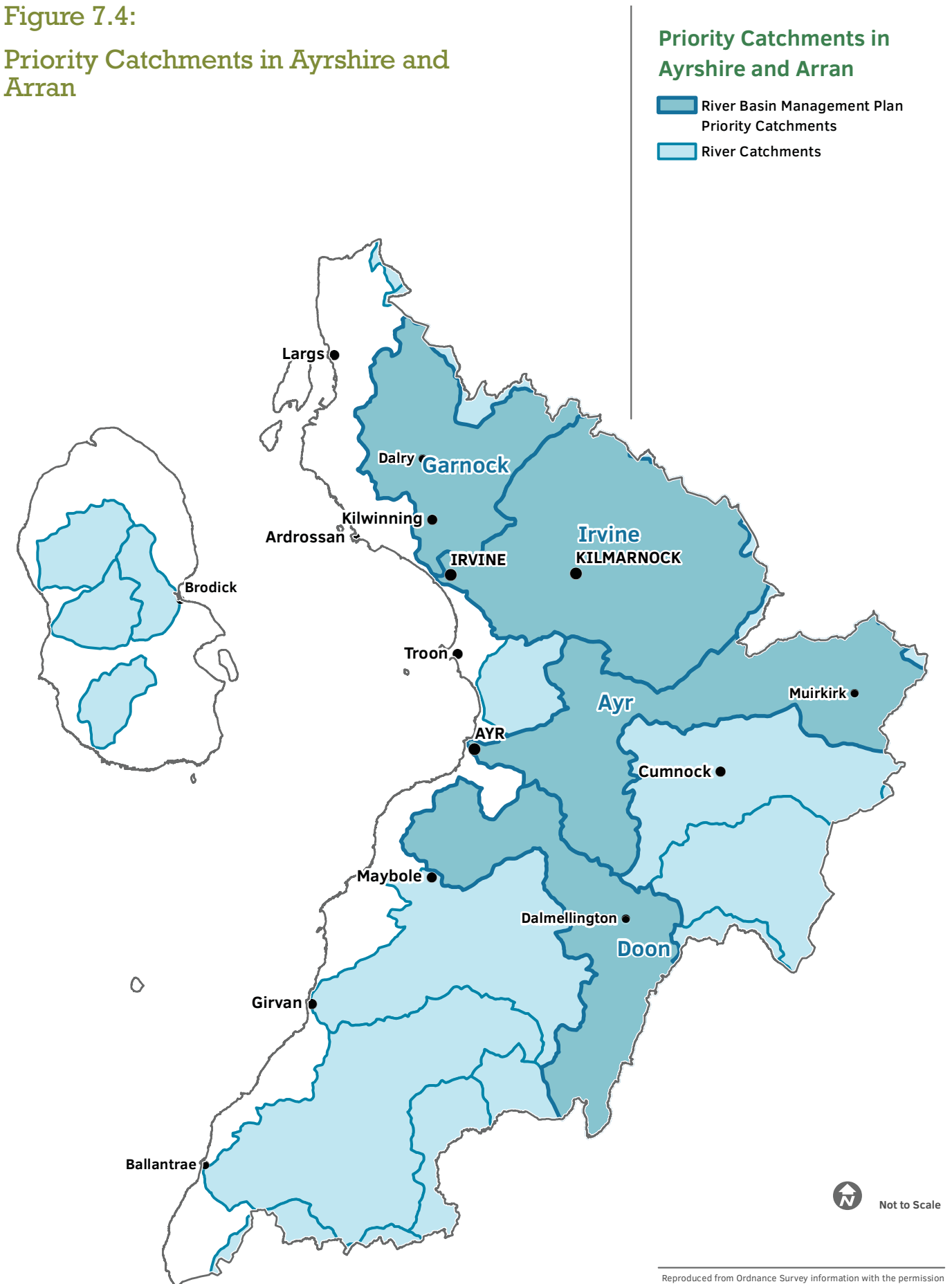
Trees and woodland can play an important role in reducing pollution and sedimentation by slowing runoff and aiding infiltration, reducing the pollutant and sediment load reaching watercourses. In areas of pastoral agriculture – an important feature of Ayrshire's rural economy – ensuring that livestock are kept an appropriate distance away from watercourses is an important means of reducing pathogen concentrations and preventing damage to river morphology. Trees, hedgerows and farm woodland can help create physical barriers to livestock, as well as improving the landscape and biodiversity contributions of buffer strips. This could be an important means of assisting land managers meet their cross-compliance objectives that delivers a wider range of benefits.

Unfortunately, forestry and woodland can also have adverse effects on the water environment. Because of the huge surface area created by their needles, conifers are highly efficient at 'scrubbing' pollutants from the air. These are then dissolved in rainwater and can contribute to acidification of watercourses. Similarly, poorly planned forest operations also have the potential to result in pollution and sedimentation through runoff, for example during ground preparation or harvesting. However, all woodland expansion is expected to meet the requirements of the UK Forestry Standard and the associated **Guidelines on Forests and Water** which ensures land managers employ appropriate avoidance and mitigation measures.

Priorities

ENV19	Ensure that proposals for woodland creation and management of existing woodland have regard to River Basin Management Plans, taking account of opportunities to improve water quality and delivering multiple benefits
ENV20	Promote the role of woodland in contributing to water quality in agricultural areas and the potential to assist in on-farm pollution reduction

Figure 7.4:
Priority Catchments in Ayrshire and Arran



Priority Catchments in Ayrshire and Arran

- River Basin Management Plan Priority Catchments
- River Catchments

Flooding is covered under the 'Climate Change' theme, and Priority CC8.

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Air quality

Trees and woodlands can help filter and absorb pollutants and other airborne particulate matter. This can have a noticeable benefit along busy transport corridors and adjacent to industrial plant or mineral extraction and processing sites.

The use of woody biomass as a fuel source for heat and power can increase pollutant levels, particularly in larger urban areas or where air quality is already a concern. The types of equipment and fuels that can be used in Smoke Control Areas²⁰ and Air Quality Management Areas (none currently exist in Ayrshire) are restricted and, while this situation may change in the future, the emphasis should be on providing good advice to organisations and householders considering using woodfuel as a source of heat or power.

Priorities

ENV21	Promote the role of woodland in improving air quality
ENV22	Provide good information to potential biomass energy users to ensure there are no adverse effects on air quality
ENV23	Encourage the creation of new woodland in transport corridors, and planting of street trees in urban areas, to intercept pollutants and improve local air quality ²¹

²⁰ Dalry, Kilbirnie, Glengarnock, Ardrossan, Saltcoats, Stevenston and Kilwinning

²¹ This may not be appropriate in acid-sensitive catchments



Soils

Healthy soil is a vital component of functioning woodland ecosystems of all types, therefore safeguarding the quality and long-term viability of the resource is critical.

Trees can also have a number of beneficial effects on soil quality. Planting on contaminated sites can help break down organic pollutants, reduce concentrations of heavy metals and contribute to improved soil quality. Trees can also help stabilise soils which might otherwise be subject to erosion by water or wind. They can also help reduce the risk of landslides and slumping when steep slopes become saturated.

Peat makes up a significant proportion of the region's soil resource, and around 50% of existing conifer woodland in the region is located on peat soils. Ongoing restructuring of this resource creates exciting opportunities to restore deep peats in suitable locations.

The UK Forestry Standard Forests and Soils guidelines provide advice on best practice and sustainable soil management in forest operations.

Priorities

ENV24	Promote the use of woodland planting to help remediate polluted sites
ENV25	Promote the use of woodland in reducing soil erosion and the risk of land slips

8 Spatial Guidance

This section of the Strategy sets out the regional 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 proposals.

The spatial framework of
8 separate ‘zones’

is based on broad landscape types, grouped to reflect key issues and opportunities for woodland creation and management.

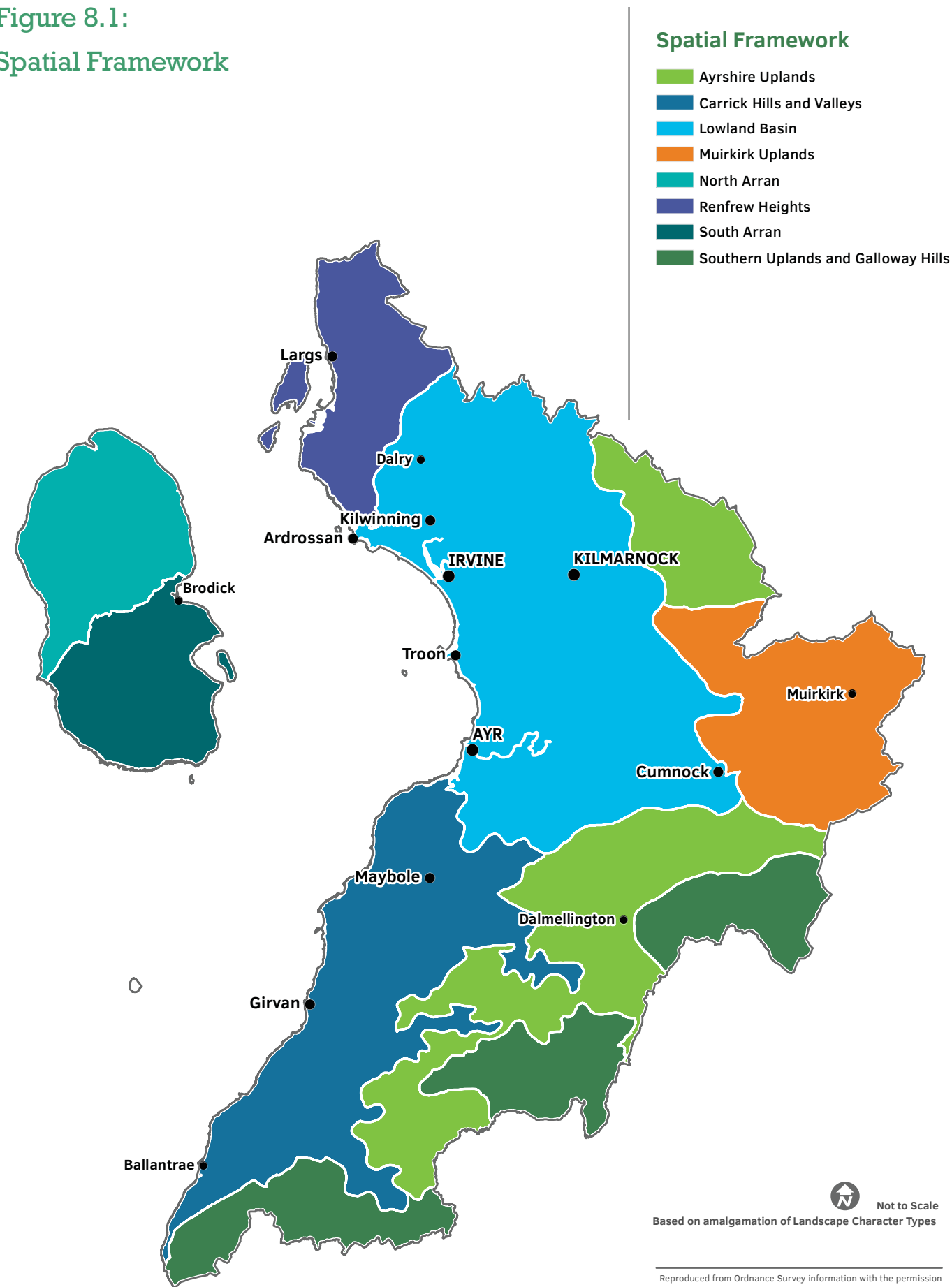
Detailed mapping is provided, showing the land categorisation for each zone and the suitability for each of the five woodland types identified in Chapter 3 (Softwood, Energy, Native, Mixed and Contributing to Regeneration).

Spatial framework

The spatial framework of eight separate ‘zones’ is based on broad landscape types, grouped to reflect key issues and opportunities for woodland creation and management. They are as follows:

Zone name	Description	Woodland cover – key facts
Ayrshire Uplands	Moorland plateaux, comprising uplands on the eastern boundary of Ayrshire, including Whitelee Forest; and, the foothills of the Southern Uplands from New Cumnock to Barrhill	26,475ha 45% of zone wooded 35% of regional resource
Carrick Hills and Valleys	Rolling hills and complex topography between the River Doon and the foothills of the Southern Uplands, including the lower valleys of the rivers Girvan and Stinchar	8,201ha 15% of zone wooded 11% of regional resource
Lowland Basin	The agricultural heart of Ayrshire, enclosed by the hills of the Renfrew Heights, the Ayrshire rim uplands and Carrick Hills	6,763ha 7% of zone wooded 9% of regional resource
Muirkirk Uplands	The more sparsely-wooded moorland hills and plateaux between Darvel and New Cumnock	4,498ha 14% of zone wooded 6% of regional resource
North Arran	The mountainous and remote north of the island of Arran	3,414ha 15% of zone wooded 5% of regional resource
Renfrew Heights	Uplands of the Clyde Muirshiel Regional Park, rising from the coast between Skelmorlie and Ardrossan	1,465ha 7% of zone wooded 2% of regional resource
South Arran	The southern, lower-lying portion of Arran	7,319ha 36% of zone wooded 10% of regional resource
Southern Uplands and Galloway Hills	Wooded uplands of the Carsphairn, Carrick and Arecleoch Forests and Glen App	17,379ha 44% of zone wooded 23% of regional resource

Figure 8.1:
Spatial Framework



Ayrshire Uplands

Overview

Plateau moorlands running along the eastern side of Ayrshire and forming a transition between the Lowland Basin and the Southern Uplands and Galloway Uplands to the south. The Ayrshire Uplands comprise gently sloping areas of plateau moorland, cut by the valleys of the Rivers Irvine and Doon. Parts of these hills and valleys have formed a focus for mineral extraction, with large scale open cast mines and areas of restored land. The historic association with mineral extraction is reflected in a series of industrial settlements with concentrations of higher unemployment and poorer health.

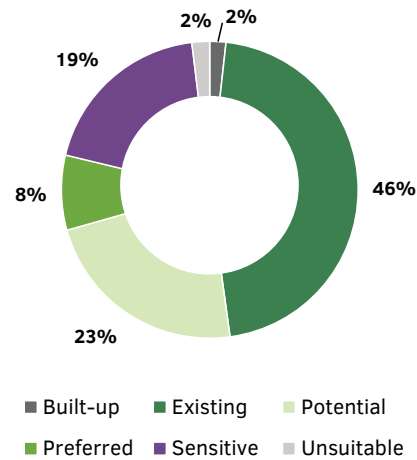
Existing woodland resource

Existing woodland cover stands at around 45% of the zone, well above the average for Ayrshire and Arran as a whole, and is largely composed of extensive areas of softwood forest. This represents 35% of the regional woodland resource, and is therefore of key strategic importance to the industry and the wider economy.



Total zone area: 58,416ha

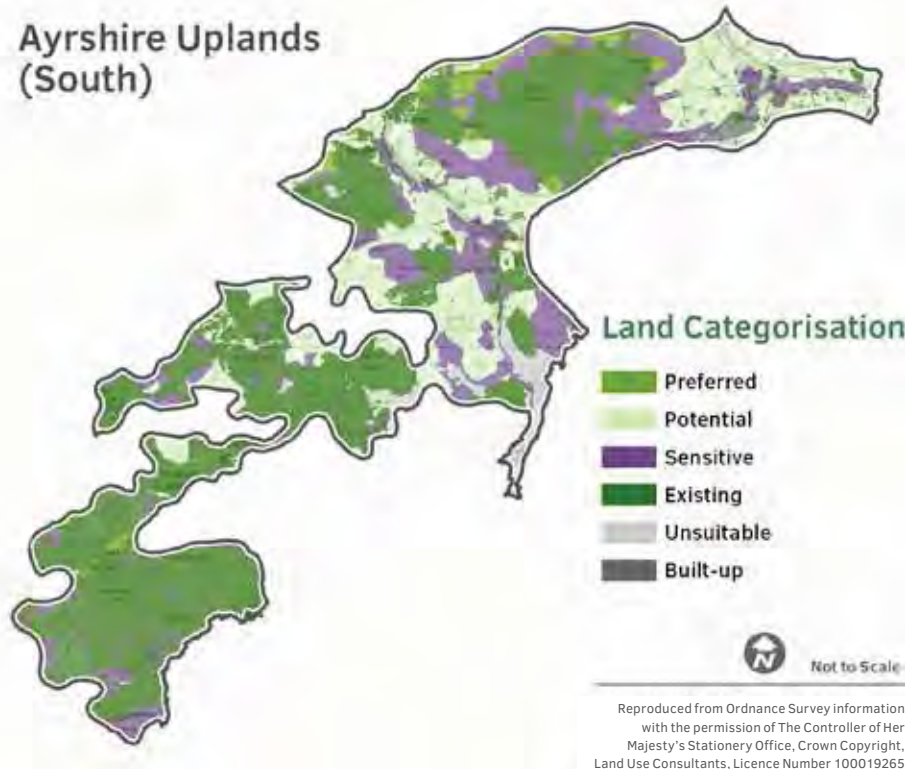
Zone location & breakdown of zone land categories



Ayrshire Uplands (North)



Ayrshire Uplands (South)



Key issues

Local issues for woodland and forestry include:

The need for environmental enhancement in areas affected by mineral extraction, particularly in river valleys and close to settlements

The importance of protecting cultural heritage

Contributing to climate change adaptation, particularly in terms of sustainable flood management

Reversing habitat fragmentation by developing habitat networks from existing woodland cores within the river valleys

Pressures for wind farm development and the importance of securing appropriate compensatory planting where woodland removal takes place

Restructuring and enhancement of existing softwood forests, with opportunities to enhance their biodiversity, recreational and landscape benefits

Potential benefits of prioritising restoration of sites on deep peat, and moving the resource 'downhill' into less sensitive, and more productive, areas

Local sensitivities

The Whitelee Forest, between Darvel and the M77, has experienced significant woodland removal to facilitate the construction of a major wind farm. Continued pressure on the uplands of the region, outside the large designated areas in the Muirkirk Uplands, is likely to present difficult choices regarding the most appropriate land uses in these areas.

A substantial proportion of the softwood resource is located on high carbon and peat soils, creating opportunities for peatland restoration – but also necessitating replanting in less sensitive locations to ensure the sustainability of the region's timber industry.

Priorities for woodland management

Management, expansion and linking of existing native and mixed woodlands within the river valleys

Retention of existing areas of softwood forests, but restructuring to include a higher proportion of open ground, achieve a better landscape fit and contribute to peatland restoration objectives where appropriate

Ensuring that any reductions in the extent of woodland resulting from restructuring or wind energy development are compensated within Ayrshire where required by The Scottish Government's Policy on Control of Woodland Removal

Potential for expansion

As this zone already holds such a significant proportion of the region's woodlands, ensuring an appropriate balance of land uses – particularly in relation to wind energy proposals – will be a key consideration. There is a substantial area of 'preferred' (c.4,796ha) and 'potential' (c.13,370ha) land, although it is likely that much of the expansion into these areas would largely be compensating for losses elsewhere due to wind energy development and restructuring of existing forests.

The priorities for new woodlands in this area include:

Potential for new softwoods on the less sensitive soils and landscapes of the lower slopes of the uplands

Potential for new native, mixed and energy woodlands associated with mineral working to provide screening and form part of site restoration when extraction is complete

Potential for native woodland expansion to contribute to habitat networks along river valleys and tributaries

Potential for mixed woodland expansion associated with agricultural activity in lower parts of the river valleys

Carrick Hills and Valleys

Overview

A complex area of rolling hills, major river valleys, coastal and pastoral landscapes, the Carrick Hills are sparsely settled and predominantly agricultural in character. The Stinchar and Girvan valleys are key elements in the zone, both in landscape terms and with regard to the concentration of the woodland resource. The woodlands of the major designed landscapes at Culzean, Bargany, Kilkerran, Glen App and Blairquhan, and a large number of undesignated sites, are important structuring elements in the landscape.

The more exposed upland areas in the zone already host a number of wind farms, and are likely to experience continued development pressure.

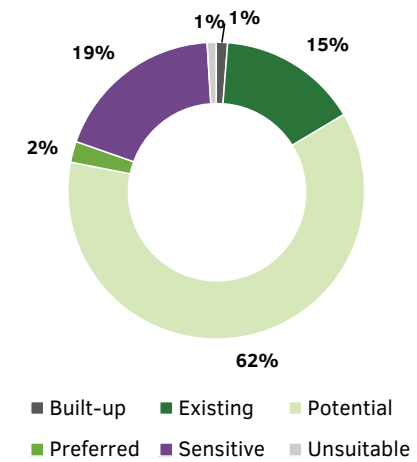
Existing woodland resource

In many areas, woodland is an important aspect of this character, in the form of riparian networks, farm woodlands, field trees and a number of designed landscapes. Blocks of softwood forest, although generally far smaller than in the uplands, are also an important component of the zone's woodland resource.

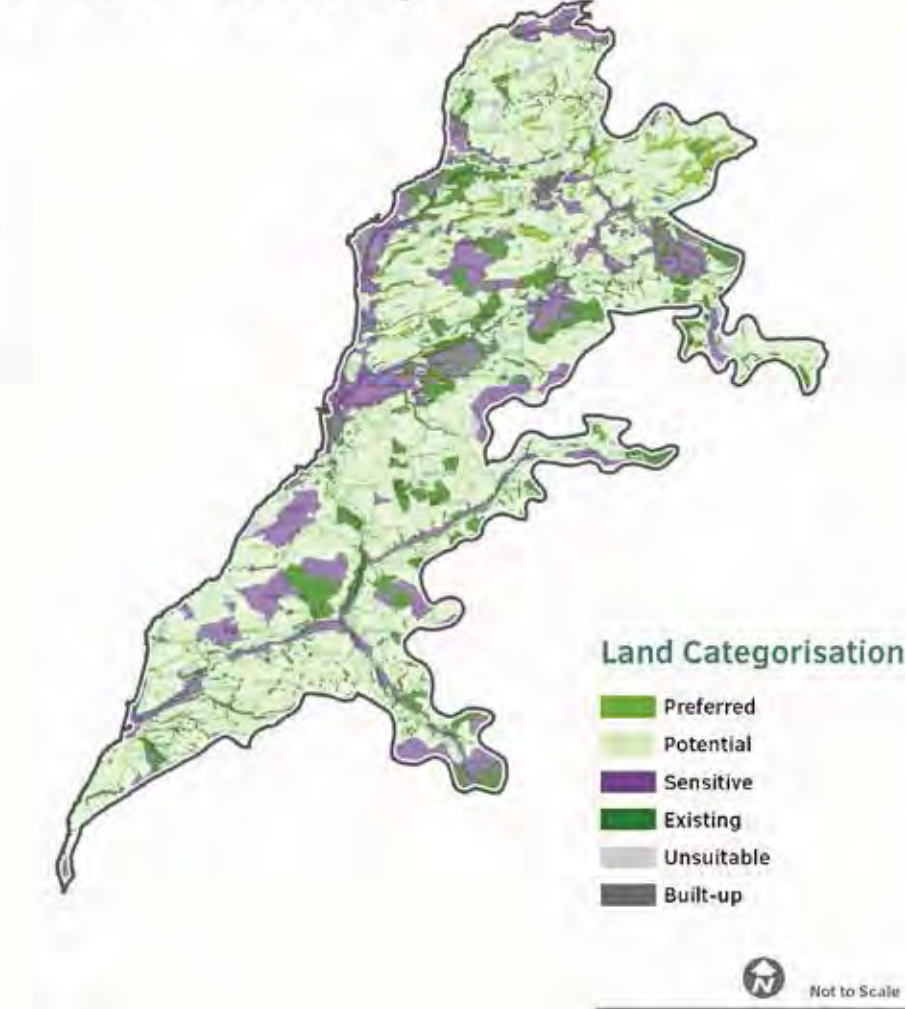


Total zone area: 54,208ha

Zone location & breakdown of zone land categories



Carrick Hills and Valleys



Land Categorisation

- Preferred
- Potential
- Sensitive
- Existing
- Unsuitable
- Built-up

Not to Scale

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Key issues

Local issues for woodland and forestry include:

Reversing habitat fragmentation by developing networks of habitat from existing core areas of woodland

Pressures for wind farm development and securing appropriate compensatory planting where woodland removal occurs

Restructuring of existing softwood forests, with opportunities to enhance their biodiversity, recreational and landscape benefits, but potential reductions in the overall level of forest cover

Conserving and enhancing historic designed landscapes

High peat content of some soils in the south of the area, with implications for woodland expansion and management

Priorities for woodland management

Management, expansion and linking of existing native and mixed woodlands in and around the river valleys

Retention of existing areas of productive conifer plantation, with restructuring to include a higher proportion of open ground and achieve a better landscape fit

Ensuring that any reductions in the extent of woodland resulting from restructuring or wind energy development are compensated within Ayrshire, where required by The Scottish Government's Policy on Control of Woodland Removal

Positive and proactive management of woodland and trees in designed landscapes, taking a strategic approach to succession planning and adapting to the effects of climate change through appropriate species and provenance choices

Local sensitivities

The Lendalfoot Hills SAC takes in a substantial area of moorland plateau of international significance for heath and grassland habitats, restricting the potential for expansion in this area. Large numbers of designed landscapes, both Inventory-listed and undesignated, require careful handling to conserve their character and significance – but also provide opportunities for expansion within the existing landscape framework.

Potential for expansion

More than half of the zone is classified as having some potential for woodland expansion – although only a very small proportion of this is 'preferred' (c.1,200ha). The intricate landform, natural heritage sensitivities and historic landscape structure will have a strong influence on the design of new woodlands. However, the existing woodland framework of the zone offers considerable potential for well-planned expansion that contributes to landscape character and structure, reinforces and enhances existing resources and caters to existing and emerging markets.

Woodland expansion could therefore comprise:

Enhancing native woodland networks, particularly in river corridors

Well-designed smaller-scale softwoods, particularly in areas where they can be accommodated within existing landscape structure

Expansion of mixed and farm woodlands in the dales and valleys

Restoration or enhancement of designed landscape features including field boundary trees, copses, 'roundels' and 'wilderness' planting

Lowland Basin

Overview

The Lowland Basin lies at the heart of Ayrshire, comprising gently rolling relatively sparsely-wooded pastoral landscapes punctuated by a number of substantial river valleys where the woodland resource is concentrated. The area includes the region's larger settlements, including Kilmarnock, Irvine, Ayr and Troon, together with many villages.

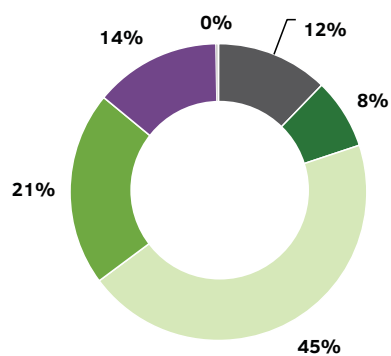
Existing woodland resource

This zone has the lowest level of woodland cover in the region proportional to its size – with just 7% of its land area wooded (c.6,736ha). This resource is largely broadleaved, comprising a combination of farm, policy and riparian woodlands, containing a significant proportion of native woodland types.



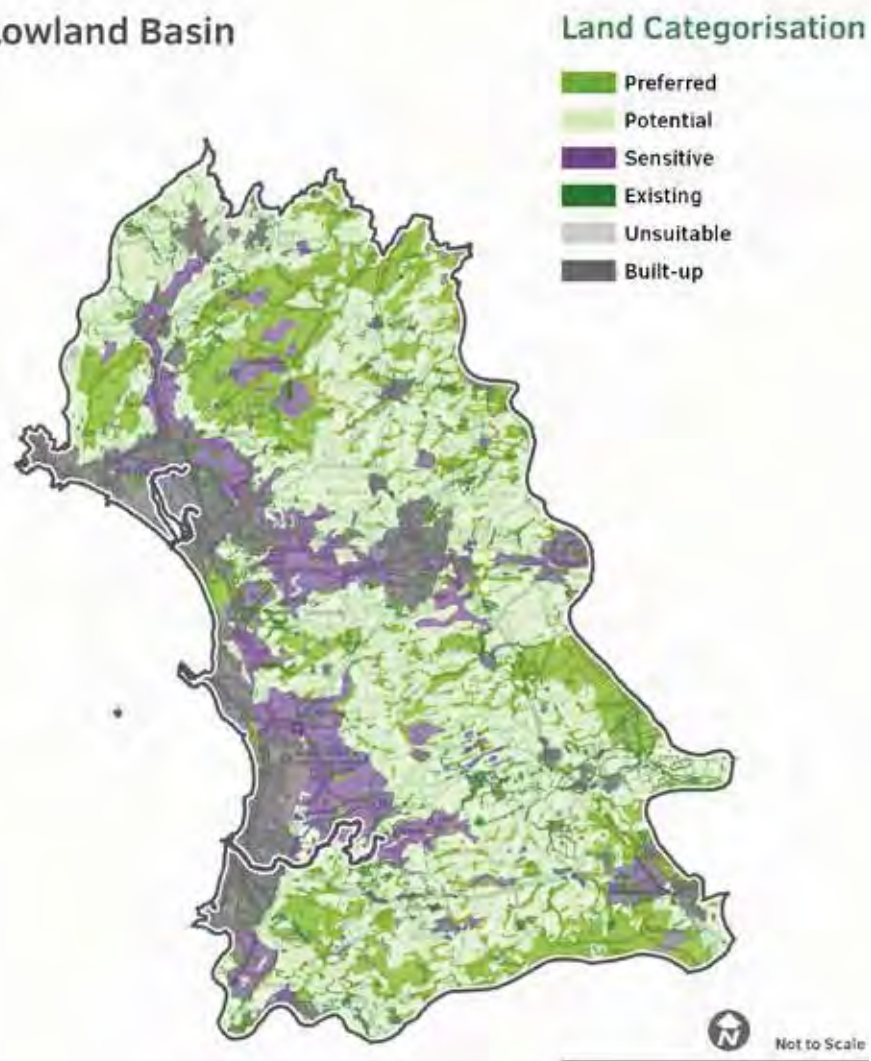
Total zone area: 90,298ha

Zone location & breakdown of zone land categories



■ Built-up ■ Existing ■ Potential ■ Preferred ■ Sensitive ■ Unsuitable

Lowland Basin



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Key issues

Local issues for woodland and forestry include:

Increasing the contribution that woodland and forests make to the agricultural economy

Maintaining distinctive character of this area, using new planting and woodland management to improve the setting of towns and villages

Enhancing and expanding existing larger native woodland assets that can act as 'core' areas for key species to improve resilience to change and restore ecosystem functions

Reversing habitat fragmentation by developing networks of habitat from existing core areas of woodland

Contributing to climate change adaptation, particularly in terms of sustainable flood management, urban climate regulation and slope stability

Contributing to recreation opportunities particularly in and around settlements and along river valleys and the coast

Contributing to local economic development, creating environments that support investment in areas such as Irvine Bay

Local sensitivities

The zone hosts a number of lowland raised bogs that are particularly sensitive to woodland expansion. Where these assets have already been subject to inappropriate afforestation, and there is a realistic prospect of restoring key elements of ecosystem function, they should be prioritised for restoration to contribute to biodiversity, sustainable water management and carbon sequestration objectives.

This zone contains a large number of historic gardens and designed landscapes. These assets make a substantial contribution to the character and structure of the zone's landscape, most notably in the Ayr valley.

This zone also contains the majority of Ayrshire's prime quality agricultural land. Broadly, larger-scale woodland expansion would be inappropriate in such locations – but new trees, shelter belts and appropriate farm woodlands may make a substantial contribution to agriculture's resilience to climate change and help with meeting cross-compliance objectives, e.g. reducing diffuse pollution from livestock.

Priorities for woodland management

Removal of woodland from raised bogs that have significant potential for restoration

Positive and proactive management of woodland and trees in designed landscapes; succession planning and adapting to the effects of climate change through appropriate species and provenance choices

Bringing neglected farm and policy woodlands into positive management

Maintaining and restoring landscape structure by managing and planting field boundary trees and shelterbelts

Management and enhancement of strategically important larger native woodlands, particularly in the Ayr valley, to boost resilience and improve habitat values

Improving the management and use of woodlands in and around the region's main settlements

Potential for expansion

Almost 46% of the zone is identified as having some capacity for woodland expansion (19,123ha 'preferred'; 40,572ha 'potential'). Within this area, there is significant flexibility to accommodate a range of woodland types, contributing to a wide range of objectives.

Expansion could comprise:

New mixed woodlands, including farm woodlands, shelterbelts and expansion / restoration of policy woodlands

Significant native woodland expansion in riparian corridors to improve connectivity with key habitat resources, and to provide the focus for wider development of woodland habitat networks

Energy woodlands, such as short-rotation forestry or coppice, on vacant, derelict or under-used land, where this does not conflict with wider objectives

New softwood and mixed woodlands in transitional landscapes between lowlands and more sensitive uplands

Opportunities for 'greening' urban fringe locations, particularly where there are concentrations of vacant and derelict land, helping to build the green network and create resources for recreation close to communities

Muirkirk Uplands

Overview

The area of plateau moorland on the eastern border of the region between Darvel and New Cumnock, centred on the former mining and industrial town of Muirkirk. The area is still significant for mineral working, particularly opencast coal, with a number of operational and restored sites within the zone, making remediation of environmental degradation a priority. The long history of mining in the area is strongly evident in the landscape, from numerous spoil heaps, bell-pits and other relict mineworkings, to the remains of John McAdam's tar works above Muirkirk.

The zone contains significant areas of land designated under the EU Habitats and Birds

Directives that require careful consideration in the planning of proposals for new woodland.

Existing woodland resource

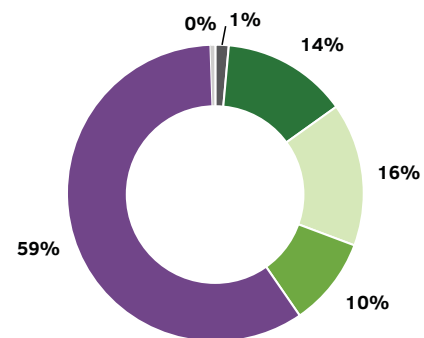
Unlike the Ayrshire Uplands, this zone is largely composed of open moorland, with some blocks of softwood forest on the hill fringes and in the Ayr valley.

The native woodland resource is very limited, and is largely restricted to the valleys of the Glenmuir Water and Bellow Water above Cumnock, with further fragments in and around the Ayr valley. These woodlands are highly fragmented and are generally not in active management.



Total zone area: 32,286ha

Zone location & breakdown of zone land categories



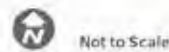
Legend for donut chart: Built-up (black), Existing (dark green), Potential (light green), Preferred (medium green), Sensitive (purple), Unsuitable (grey).

Muirkirk Uplands



Land Categorisation

- Preferred
- Potential
- Sensitive
- Existing
- Unsuitable
- Built-up



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Key issues

Local issues for woodland and forestry include:

Contributing to the restoration and enhancement of former mineral working sites

The importance of protecting industrial and cultural heritage

Contributing to climate change adaptation, particularly in terms of sustainable flood management

Reversing habitat fragmentation by developing habitat networks from existing woodland cores within the river valleys

Restoring peatland habitats

Local sensitivities

The open moorland hills of the zone are largely covered by the Muirkirk and North Lowther Uplands Special Protection Area (SPA), of international significance for its assemblage of breeding birds. Deep peat soils are a key issue in this zone with substantial areas of blanket bog, including the Airds Moss Special Area of Conservation. While European designation does not represent an absolute constraint on expansion, the creation of woodlands within or likely to have a significant adverse effect on the qualifying features of the site will require appraisal under the Habitats Regulations.

Balancing the restoration and remediation of former mineral workings with conservation and enhancement of the zone's industrial heritage is an important consideration.

Priorities for woodland management

Although over a quarter of the zone is assessed as having some potential for expansion (c.3,128ha 'preferred'; c.5,028 'potential'), in reality significant increases in woodland cover are unlikely. Loss of cover due to restructuring existing softwood forests on deep peat is likely to necessitate replanting in less sensitive areas to maintain the long term sustainability of the region's timber industry.

Conserving the zone's internationally important natural heritage will require extensive partnership working to ensure that land managers understand the key sensitivities that should be taken into account in scheme design and future management.

Existing woodlands

Managing existing native woodlands to optimise their biodiversity and landscape value

Bringing neglected and under-managed woods into positive and productive management

Restructuring and redesigning existing softwood forests to comply with UKFS and deliver the optimal range of benefits

Potential for expansion

Potential for new native, mixed and energy woodlands associated with mineral working to provide screening and form part of site restoration when extraction is complete

Potential for native woodland expansion to contribute to habitat networks along river valleys and tributaries and expand larger existing assets

North Arran

Overview

This zone comprises the northern part of the Isle of Arran, north of the B880 between Brodick and Machrie Moor. This area is dominated by dramatic granitic uplands and deep u-shaped glens. It includes coastal headlands, narrow coastal strip and historic settlements such as Lochranza and Sannox.

Arran represents the region's most significant tourism asset, therefore protecting existing uses and diversifying and enhancing the island's appeal is a regional priority.

Existing woodland resource

Current woodland cover comprises around 15% of land area, and is principally composed of large-scale conifer blocks on the fringes of the uplands. The native woodland resource is composed largely of upland birchwoods concentrated around the coast, following the main glens into the interior. These areas are also home to the endemic species of Arran, Catacol and cut-leaved whitebeam.



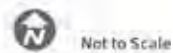
Total zone area: 22,969ha

North Arran



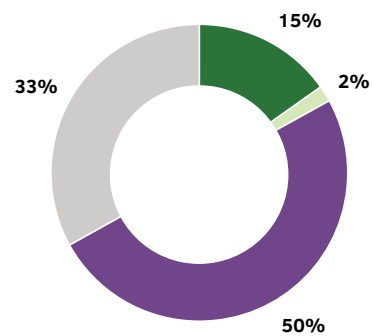
Land Categorisation

- Preferred
- Potential
- Sensitive
- Existing
- Unsuitable
- Built-up



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Zone location & breakdown of zone land categories



- Built-up
- Existing
- Potential
- Preferred
- Sensitive
- Unsuitable

Key issues

Local issues for woodland and forestry include:

Maintaining the landscape quality and recreational importance of the uplands

Restructuring and enhancement of existing softwood forests, with opportunities to enhance their biodiversity, recreational and landscape benefits, but with likely reductions in the overall level of forest cover

Potential for native woodland expansion along glens, lower hill slopes and around the coast

Reversing habitat fragmentation by developing habitat networks building from existing woodland cores within the river valleys, along burns and gullies and around the coastline

Potential to further increase the use of existing forests as a source of biomass

Priorities for woodland management

Ongoing restructuring of existing softwood forests to include a higher proportion of open ground and native woodland networks to contribute to biodiversity, landscape and recreational values

Ensuring reductions in the overall extent of woodland are appropriately compensated, where required by The Scottish Government's Policy on Control of Woodland Removal, is a regional priority

Conserving and enhancing north Arran's unique resource of endemic whitebeam species and designated upland birchwoods

Potential for expansion

Potential for native woodland expansion to contribute to habitat networks linking along river valleys and around the coastline

Potential for native and mixed woodland expansion associated with agricultural activity in the valleys, dales coastal fringe

Local sensitivities

North Arran is designated as a National Scenic Area, therefore conservation of the 'Special Qualities' of the area is a priority. Similarly, it is one of the most important geological areas in the UK and is home to a range of valuable upland habitats. Virtually all of the open moorlands of Arran are designated as a SSSI and a Special Protection Area due to the presence of breeding hen harrier, making the conservation and enhancement of this resource a key priority. In the north, this resource is concentrated on the eastern side of the island, between Glen Sannox and Brodick.

The extensive prehistoric landscapes preserved on Machrie Moor are of national significance; therefore the fabric and setting of these assets require careful consideration in planning new woodland proposals.

Renfrew Heights

Overview

The Renfrew Heights is an area of elevated, rugged moorland in North Ayrshire, rising from the coastline between Ardrossan and Skelmorlie and bordered to the southeast by the broad lowlands of the Garnock valley. Much of the upland area forms part of the Clyde Muirshiel Regional Park, extending into Inverclyde and Renfrewshire. The zone also contains the coastal fringe, a number of settlements and the Cumraes.

largely broadleaved and is composed principally of native woodland networks extending from the coastal fringe up the valleys of the Kelly Burn, the Skelmorlie Water and the Noddsdale Water. While much of this woodland was previously managed as estate policies, it generally has a more naturalistic character than that of lowland designed landscapes. The mixed woodlands of the Kelburn Castle policies, now a country park, are also an important feature.

A number of conifer blocks are present on the southern flanks of the Renfrew Heights, although some of this resource has been lost due to wind farm development.

Existing woodland resource

This zone is comparatively sparsely wooded, with just 7% of land area under trees. The resource is



Total zone area: 20,804ha

Zone location & breakdown of zone land categories

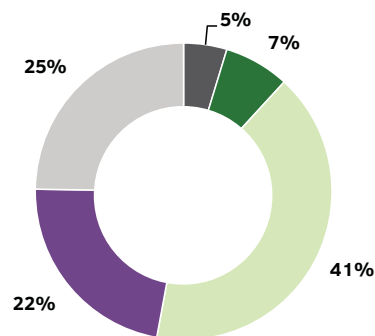
Renfrew Heights

Land Categorisation

- Preferred
- Potential
- Sensitive
- Existing
- Unsuitable
- Built-up



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■ Built-up ■ Existing ■ Potential
■ Preferred ■ Sensitive ■ Unsuitable

Key issues

Local issues for woodland and forestry include:

Large areas of the higher ground are unsuitable or sensitive to woodland expansion

Recreation is an important activity across this area, reflecting Regional Park status

Contributing to climate change adaptation, particularly in terms of sustainable flood management

Reversing habitat fragmentation by developing integrated habitat networks building from existing areas of native woodland around the fringes of the hills

Balancing continued pressure for wind energy development with other land uses

Local sensitivities

A substantial area of the Heights is designated as a Special Protection Area due to the presence of a breeding population of hen harrier, accounting for approximately 2% of the British population. While European designation does not represent an absolute constraint on expansion, the creation of woodlands within or likely to have a significant adverse effect on the qualifying features of the site will require appraisal under the Habitats Regulations.

The presence of deeper blanket peat may represent a local constraint in some areas, while much of the moorland area is too exposed and/or elevated to successfully accommodate trees. Similarly, as the landscape is highly valued for recreation, optimising this potential is a key consideration – as well as a major opportunity.

Priorities for woodland management

Within the zone, around 44% of the land area (623ha 'preferred'; 8,541ha 'potential') is classified as having some potential for new woodland. However, the topography, climatic and soil conditions, and landscape values within these areas is likely to restrict the type and scale of woodland that will be considered to be appropriate.

Existing woodlands

Improving management of broadleaved woodlands along the coastal fringe and in upland valleys

Restructuring softwood forests on the middle and upper slopes

Effective planning to secure the resilience of historic gardens and designed landscapes

Potential for expansion

Expanding the native woodland resource to improve resilience to climate change

Exploring the potential for riparian woodland to contribute to sustainable flood management

Securing appropriate compensatory planting for woodland lost to development

Small-scale expansion of softwoods on the lower slopes to compensate for losses to wind farms and restructuring

South Arran

Overview

This area comprises the southern part of the Isle of Arran, south of the B880 between Brodick and Machrie Moor. The landscape contrasts with the rugged uplands of north, and is made up of more gently rolling moorland hills and valleys, with raised beach landscapes around the coast. Settlement, farming and crofting are concentrated around the coastline. Large-scale softwood forests are currently a significant element in the landscapes of the interior.

Arran represents the region's most significant tourism asset, therefore protecting existing uses and diversifying and enhancing the island's appeal is a regional priority.

Existing woodland resource

Woodland currently accounts for 36% of the zone's land area, overwhelmingly composed of planted softwood forests – much of which is due to be felled in the coming decade (with around 60,000m³ per annum to be extracted from the National Forest Estate²²).

The glens and coastline of the south have a varied native woodland composition, including oak and ashwoods, in addition to some areas of farm woodland, small policy woodlands and field boundary trees.



South Arran



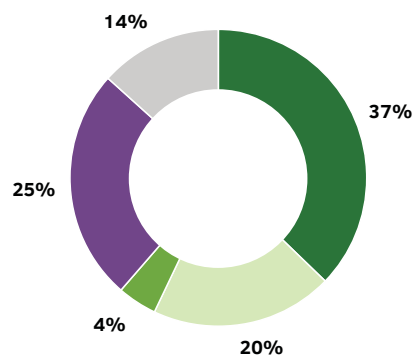
Land Categorisation

- Preferred
- Potential
- Sensitive
- Existing
- Unsuitable
- Built-up



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Zone location & breakdown of zone land categories



- Built-up
- Existing
- Potential
- Preferred
- Sensitive
- Unsuitable

²² All large softwood forests in South Arran are within the National Forest Estate

Key issues

The economics of island forestry have not proved favourable under recent conditions, meaning that a significant proportion of Arran's softwood resource is gradually being replaced with native pine and broadleaved woodlands to optimise natural heritage and recreational values. Retention of the most productive sites and development of sustainable on-island markets are therefore a regional priority.

There is significant potential for appropriately scaled and located biomass combined heat and power installations to provide a market for currently uneconomic forest products, such as small diameter roundwood, brash and stumps²³.

Restructuring and enhancement of existing softwood forests, with opportunities to enhance their biodiversity, recreational and landscape benefits, but with likely reductions in the overall level of forest cover

Developing and marketing the tourism and recreation potential of forest land

Continuing to avoid impacts on the local road network by optimising the use of the forest road network for timber haulage

Potential to further increase the use of existing forests as a source of biomass

Enhancing and expanding native woodland networks around the coasts, and creating links to the interior via riparian corridors

Local sensitivities

Virtually the entire upland plateau beyond the edges of the existing softwood forests is designated as a SSSI and SPA due to the presence of breeding hen harrier. This significantly reduces the opportunities to expand this resource. In subsequent rotations, the development of more naturalistic woodland edge habitats will convey significant landscape and biodiversity benefits.

Tourism and recreation are of significant economic value, therefore safeguarding and enhancing existing assets is a regional priority.

Priorities for woodland management

Retention of areas of better quality softwood forest to cater to existing and emerging markets

Ensuring reductions in the overall extent of woodland are appropriately compensated, where required by The Scottish Government's Policy on Control of Woodland Removal, is a regional priority

Positively managing the woodland component of historic gardens and designed landscapes, including the Inventory-Listed Brodick Castle

Bringing lowland and coastal mixed and native woodland into positive management

Potential for expansion

Potential for native woodland expansion to contribute to habitat networks along river valleys and around the coastline

Potential for native and mixed woodland expansion in the valleys, dales and coastal fringe

Development of farm and croft woodlands to assist in diversification, contribute to landscape structure and deliver habitat connectivity

²³ Where site conditions and environmental constraints allow for stump harvesting / brash collection

Southern Uplands and Galloway Hills

Overview

This zone comprises the high, rounded and heavily forested northern edge of the Southern Uplands, stretching from Glen App in the west, via the Merrick, to the moorland hills above New Cumnock. Containing the northern extremity of the newly-designated Galloway and Southern Ayrshire Biosphere Reserve – centred on the Merrick Kells and Silver Flowe SAC – unlocking the environmental and economic potential of this zone is a regional priority.

Existing woodland resource

The zone is currently heavily wooded, with 44% of the land area currently under woodland, the vast majority of which is softwood. Small areas of mixed and broadleaved woodland are contained within Glen App and the valleys of tributary burns, but the resource is generally small-scale and fragmentary.

The major softwood forests of the zone are currently undergoing an extensive process of restructuring, particularly within the National Forest Estate, that is delivering more diverse woodland and open habitats.



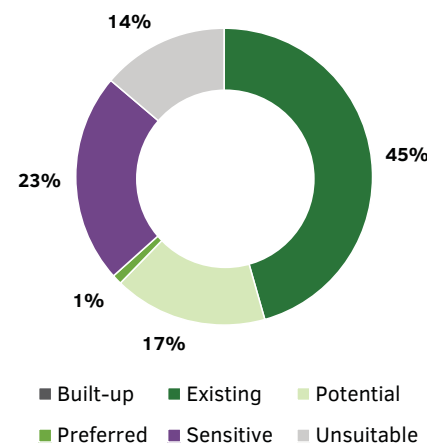
Total zone area: 38,858ha

Zone location & breakdown of zone land categories

Southern Uplands and Galloway Hills

Land Categorisation

- Preferred
- Potential
- Sensitive
- Existing
- Unsuitable
- Built-up



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Key issues

Local issues for woodland and forestry include:

Restructuring and enhancement of existing softwood forests, with opportunities to enhance their biodiversity, recreational and landscape benefits, but potential reductions in the overall level of forest cover

Addressing habitat fragmentation by developing integrated habitat networks building from existing woodland cores within the river valleys

Pressures for wind farm development and the importance of securing appropriate compensatory planting where woodland removal takes place

High peat content of some soils, with implications for woodland expansion and management

Ongoing efforts to reduce effects of surface water acidification from airborne pollutants

Adding value within Ayrshire from the increasingly significant leisure uses of the Galloway Forest Park, and helping to unlock the potential of the Galloway and South Ayrshire Biosphere 'brand'

Local sensitivities

The Merrick Kells SAC, an internationally important example of blanket bog, wet upland heath and alpine grassland habitats, is a key habitat resource in this zone. Creation or management of woodlands in, or likely to have a significant adverse effect on the qualifying features of, the site will require appraisal under the Habitats Regulations.

Reducing the impact of timber transport on the local road network is a priority, as is ensuring that any further losses to development are appropriately compensated.

Priorities for woodland management

Reflecting the zone's already-significant woodland cover and the presence of natural heritage designations and sensitive peat soils, the potential for expansion is limited.

Existing woodland

Management, expansion and linking of existing native and mixed woodlands within the river valleys

Retention of existing areas of softwood forests, restructuring to include greater diversity, a higher proportion of open ground, achieve a better landscape fit and to restore peatland habitats where appropriate

Ensuring that any reductions in the extent of woodland resulting from restructuring or wind energy development are fully compensated within Ayrshire

Potential for expansion

Potential for limited expansion 'downslope' into less sensitive areas, contribution to processes of restructuring and improving transitional and woodland edge habitats

Expanding native woodland networks to improve connectivity between isolated resources (e.g. in the upper Doon Valley) and the lowlands

Appendix 1

Mapping methodology

Context

Scottish Government advice 'The Right Tree in the Right Place' (RTRP) 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

RTRP is clear 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

RTRP 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 Ayrshire and Arran FWS and its attendant Strategic Environmental Assessment focus on regionally significant sensitivities and environmental effects. It was therefore compiled using GIS datasets that depicted the most important environmental features of the region. In line with RTRP, 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 A1.8.1** below. 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 FWS:

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 (based on the then Macaulay Institute Land Capability for Forestry)

Urban: larger settlements comprising the metropolitan area of the GCV SDP region – 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

Table A1.8.1: 'Sensitivity' datasets

Category	GIS Dataset
Sensitive	Natura 2000 sites
	SSSI
	Scheduled Monuments
	Conservation Areas
	Inventory-listed Gardens & designed landscapes
	Inventory Battlefields
	National Scenic Areas
	Peat soils
	Ancient and Semi-natural woods
	Land capability for Agriculture Class 2 and 3.1 (no Class 1 in Ayrshire) (Relevant Wild Land Search Areas included within other 'sensitive' areas, therefore not included)
Potential	Land capability for Agriculture Class 3.2-4.1
	'Sensitive Landscape Character Areas' identified in Ayrshire Joint Structure Plan 2007
Preferred	No strategic constraints
Unsuitable	Land Capability for Forestry – unsuitable
	Water bodies
Built-up	Scottish Government urban/rural classification
Existing	FC National Forest Inventory dataset

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 FWS. 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 A1.8.1** 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

RTRP 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’s Rationale for Woodland Expansion could be used. They are:

Native woodlands

Mixed woodlands (principally farm and riparian woodlands)

Softwood forests

Energy forests

Woodlands for regeneration (additional, reflecting importance of major redevelopment in parts of Ayrshire)

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. Additional sources of data were used to draw out opportunities and different priorities. These included:

Integrated Habitat Network datasets (highlighting opportunities for new native woodland)

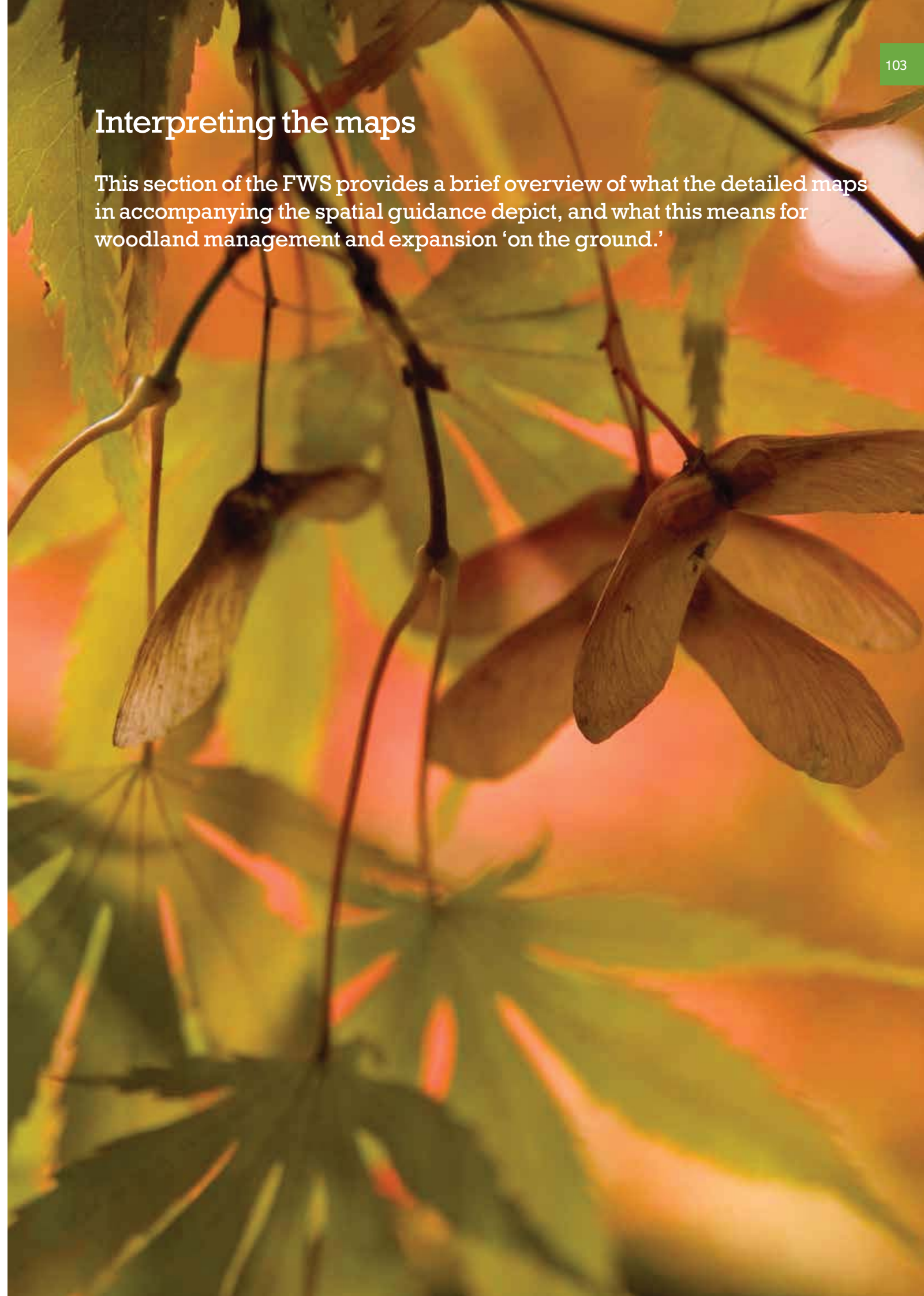
Land capability for agriculture (highlighting better quality agricultural land where the priority would be supporting existing agriculture – and more marginal areas where woodland could add value for farmers and the environment alike)

Indicative flood risk map (highlighting the ‘area of search’ for new floodplain and riparian woodland to contribute to climate change adaptation)

Strategic transport network [and distance buffer] (highlighting areas where land with potential for new productive woodlands are easily accessible from the public road network)

Interpreting the maps

This section of the FWS provides a brief overview of what the detailed maps in accompanying the spatial guidance depict, and what this means for woodland management and expansion ‘on the ground.’



Land Categorisation

These maps depict the broad potential of the region's environment to accommodate new woodland of all types (per Figure 3.1)

Softwood

These maps depict areas of land currently managed for softwood timber production and the 'preferred' areas where new planting for timber production could be accommodated, subject to site-specific constraints and relevant design considerations.

Energy

These maps depict the existing producers of biomass products, potential larger-scale producers of waste wood products that could be used in energy generation – and also potential users of biomass heat and power.

Native

These maps depict the areas in which planting of new native woodland can deliver the widest range of benefits.

Land within 5km of potential markets is highlighted to optimise sustainability, reducing the impacts of transport of bulk products.

KEY	Interpretation
Built-up	Settlements: opportunities for trees and woodland generally too small to be mapped at a strategic scale
Existing	Existing woodland of all types (derived from FC National Forest inventory)
Preferred	Land with no strategic constraint to woodland expansion. Detailed assessment may reveal site-specific issues
Potential	Land with at least one strategic constraint to new woodland, but with some flexibility to accommodate expansion where this responds appropriately to local conditions
Sensitive	Land with significant constraints to woodland expansion. The type and scale of acceptable new woodland is likely to be very limited
Unsuitable	Land physically unsuitable for the growth and management of trees

KEY	Interpretation
Accessible preferred	Land with no strategic constraint to woodland expansion, and easily accessible from the transport network
Existing and Recently Planted Softwoods	Existing planted softwood forests; may be approaching or at maturity – opportunities for restructuring Areas of softwood forest recently felled; likely to be restocked Areas ploughed / mounded but not yet planted (2011); woodland likely to be in place for c.30 years Areas recently planted, prior to canopy closure; woodland likely to be in place for at least 20 years

KEY	Interpretation
Larger settlements	Towns and villages likely to sustain facilities that could make use of biomass, principally for heating (e.g. schools, hospitals and other public buildings)
Existing woodland	Woodland of all types that could contribute to the supply of material for biomass, either as a result of planned management operations or through bringing woodland into positive management
WIAT / urban fringe area	Areas close to settlements that could support planting and management of woodland to contribute to biomass supply
Management of farm woods	Areas of better quality agricultural land where the principal contribution to biomass will be through management and smaller-scale expansion of farm woodland
Wider range of opportunities	Land of lower agricultural capability that offers greater flexibility to accommodate new woodland to contribute to biomass supply, including short rotation forestry and coppice where site-specific constraints allow

KEY	Interpretation
Existing native woodland	Woodland where canopy cover is composed mainly (>50%) of native species
Existing nearly-native woodland	Woodland where canopy cover is composed of between 40% and 50% native species. These are woodlands that could have the potential to be converted into native woodland by gradual alteration of species mix
Plantations on Ancient Woodland Sites (PAWS)	Planted woodlands identified as being in locations with 'natural' woodland cover prior to the mid-19 th century. Subject to detailed site assessment, these areas could have the potential for restoration to native woodland.
Search area for new riparian woodland	Areas adjacent to watercourses where new planting could contribute to networks of riparian woodland habitat. Detailed site assessment is required to understand the potential interactions with flooding and existing habitats
Areas with potential to contribute to woodland habitat networks	Areas within the 'moderate' and 'high' dispersal network; areas identified by the SNH Integrated Habitat Network model (for broadleaved and yew woodland). This is land in which native woodland expansion could contribute to wider habitat connectivity, supporting resilience to climate change

Mixed

These maps depict the areas in which establishing new mixed woodland has the potential to contribute to a range of objectives including rural diversification, enhancing cultural heritage and supporting resilience to climate change.

Woodland for regeneration

These maps depict the potential for new woodland to contribute to regeneration and environmental enhancement across the region.

KEY	Interpretation
Supporting agriculture on prime land	Prime quality agricultural land (Class 1-3.1): identified as 'sensitive' in the land classification. Appropriate woodland expansion in these areas will focus on providing shelter for crops and livestock, reducing erosion and contributing to management of diffuse pollution. It will generally be small scale and focused on native broadleaves
Supporting resilience and diversification	Agricultural land in a wider range of uses where woodland could support existing practice, or contribute to farm diversification
Wider range of opportunities	Land of lower capability where the potential for new woodland with both broadleaved and conifer components could contribute to landscape character, climate change objectives and provision of high quality timber
Enhancing policy woodlands	Gardens and designed landscapes with a significant woodland element

KEY	Interpretation
Contributing to tackling multiple deprivation	Areas in the 15% most deprived data zones in the Scottish Index of Multiple Deprivation 2012
Settlements	Larger settlements
Enhancing the setting of new housing	Land allocated for housing in current and emerging development plans
Enhancing urban fringe environments	1km buffer around larger settlements where new woodland can contribute to enhancement of degraded urban fringe areas
Contributing to restoration of former mineral sites	Contributing to restoration of mineral workings



Ayrshire and Arran

Forestry and Woodland Strategy 2014

Prepared by LUC in association with Bidwells

By 2050, Ayrshire and Arran's woodlands will make a significantly enhanced contribution to the region's economy, the health and well-being of its communities and the quality and resilience of its environment.



www.landuse.co.uk



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