



# Argyll and Bute Council Woodland and Forestry Strategy

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This document was prepared by Land Use Consultants, Bidwells and the Small Town and Rural Development Group in conjunction with Argyll and Bute Council and the Forestry Commission Scotland. In addition, significant input from the Advisory Group (see Annex 1) and contributions from the communities and stakeholders in Argyll and Bute have helped to shape the document into one that reflects local priorities.

## Foreword



### **Foreword by Councillor Bruce Marshall, Spokesperson for the Environment**

I am pleased to present the Argyll and Bute Woodland and Forestry Strategy, which provides a vision of how forestry and woodland can contribute to the economy, communities and the environment of Argyll and Bute over the next 20 years. Woods and trees have a strong influence on our lives in Argyll and Bute, with just under one third of the total land area under woodland of varying types. Our forests provide employment, recreation opportunities, important habitats and a renewable resource for the future. This strategy will help us realise the full potential of this valuable resource.

The strategy was developed in partnership with the Forestry Commission Scotland and was part funded by the Scottish Government and the European Community Argyll and the Islands LEADER 2007 – 2013 programme and Scottish Enterprise. A partnership approach has been fundamental to developing this strategy, since so many interests are potentially affected by woodland and forestry. This approach will be continued as we move forward to implement the shared priorities. There are major opportunities for communities, landowners, and the agricultural and conservation sectors to contribute to and benefit from the achievement of the Strategy's aims.

Finally, I would like to thank all the people who have contributed voluntarily to the preparation of this strategy, in particular the Advisory Group, community groups, the forest industry and environmental groups.

***Bruce Marshall***

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# 1. INTRODUCTION

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- 1.1. Argyll and Bute is closely identified with woodland and forests. The social, cultural and environmental influence of its woods and trees is as great, if not greater, than in any other part of Scotland.
- 1.2. While Argyll and Bute contains important areas of semi-natural woodland, many of which make an important contribution to the area's natural and cultural heritage, much of the area's woodland was planted during the years following the establishment of the Forestry Commission in 1919. The area played a major role in the quadrupling of woodland cover in Scotland during the twentieth century and today the area exemplifies many of the issues that continue to face the forestry sector in Scotland.
- 1.3. Although it is important to acknowledge the achievement of a significant expansion of Argyll and Bute's woodland cover during the twentieth century, it should also be acknowledged that the creation of woodlands with limited species diversity attracted considerable criticism. This has reflected effects on landscape, important open ground habitats, the economy of upland sheep farming and, more recently, the impact of timber traffic. Much good work has been done to learn from the past to ensure a reasonable balance is struck between these diverse interests. A key role of the Strategy will therefore be to encourage and reinforce partnership and integration across the various land use sectors. This will help ensure that management and expansion of the existing woodland resource maximises the benefits and minimises negative impacts.
- 1.4. The recognition of the long term nature of forestry is important. It is an intergenerational activity that can provide a broad range of economic, environmental and social benefits. It is an important contributor to the economy of Argyll and Bute, providing important jobs in rural areas and thus supporting families and communities across the region. Native and non-native woodlands alike can support a huge range of flora and fauna, and host species which are declining or are no longer present in the rest of the UK.
- 1.5. Although woodlands are a major asset, they continue to pose challenges and opportunities for everyone involved in their creation, management and use. The potential impacts of climate change (and all that it might entail), variable markets, shifting political priorities and making best use of the natural resource that the trees provide are all major challenges across Scotland, and in particular Argyll and Bute.
- 1.6. Argyll and Bute's importance in terms of growing trees is not matched by a legacy of local processing or use of timber. The majority of forestry products are processed outside of Argyll and Bute, meaning that the area potentially misses out on much of the added value – something the forestry sector in Argyll and Bute shares with the rest of the primary sector. However, the area's timber harvesting sector has shown great resilience by expanding into new markets, including exporting to Ireland, other parts of Scotland and England by sea, to maintain its competitive edge and enhance its viability. Many jobs in rural Argyll continue to be supported by this resilience.

- 1.7. Adding value locally, and at appropriate scales, is therefore a key challenge for Argyll and Bute – and one which this Strategy seeks to address.

## **WOODLAND AND FORESTRY IN ARGYLL AND BUTE: KEY FACTS**

### **Existing woodland cover**

- Woodland covers around a third of Argyll and Bute, totalling 2000 square kilometres. Represent 15% of Scotland's total woodland resource
- Around 85% comprises non-native woodland, with the remainder comprising semi-natural and native woodland with birch and Atlantic oakwoods dominating
- Argyll and Bute has around 33,100ha of ancient woodland. 17,300ha are semi-natural in origin.

### **Climate change**

- UKCP09 Climate change projections suggest Argyll and Bute will experience warmer wetter winters, warmer drier summers and rising sea levels. Effects may include increased wind-throw, invasive species, pests and diseases, landslides and flooding
- Woodlands in Argyll and Bute currently store around 11 million tonnes of carbon and sequester an additional 0.6 million tonnes per annum. This compares with annual emissions of more than 1.1 million tonnes per annum for the whole of Argyll and Bute, based on average Scottish figures

### **Timber sector**

- Planted softwoods total around 165,000ha with Sitka accounting for 86%
- More than 80% of non-native softwoods are on land classed as being of limited or very limited flexibility for growth and management of trees. Of the unplanted area only around 19% is classed as being of moderate or better capability, representing a total of 87,500 hectares
- Ownership and management of woodland is divided almost equally between Forestry Commission Scotland and the private sector
- Timber production currently stands at around 1million cubic metres per annum (one sixth of the Scottish total) and is likely to rise to between 1.5 and 2million cubic metres over the next 10 to 20 years as forest blocks mature and are harvested
- 70% of production is currently saw log
- There is increasing use of timber to provide biomass for heat and energy production

### **Business and economy**

- It is estimated that woodlands in Argyll and Bute support (in Argyll and Bute and beyond) 1292 full time equivalent jobs directly and some 2255 full time equivalent jobs in areas such as tourism.
- It is estimated that the 'gross value added' associated with timber grown in Argyll and Bute stands at around £58million per annum. This compares with an estimated total of around £1200million for the Argyll and Bute economy as a whole.

### **Communities, access and health**

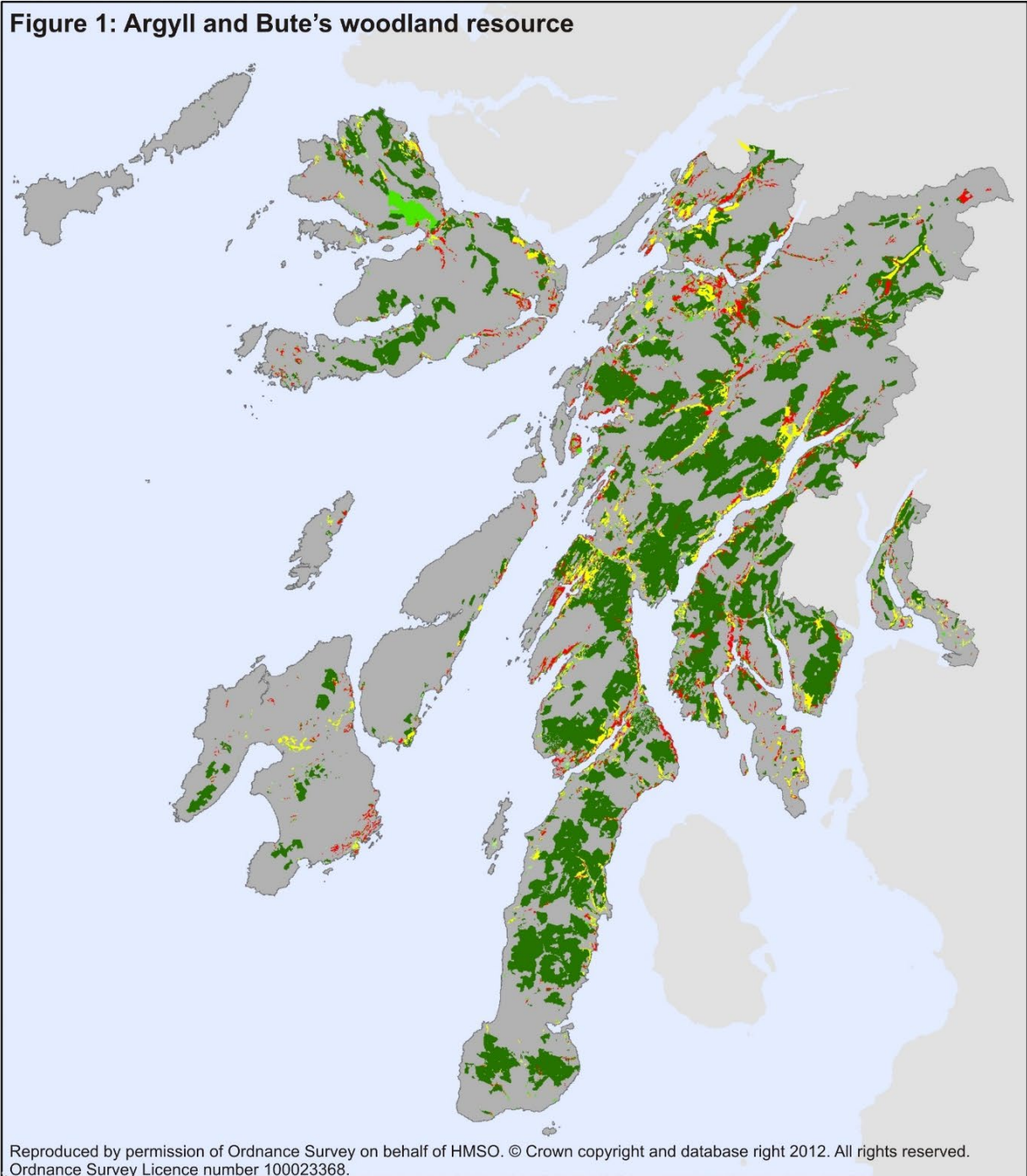
- Argyll and Bute has a population of around 92,000.
- Levels of deprivation are relatively low, though Campbeltown, Dunoon, Helensburgh, Oban and Rothesay have populations amongst the 15% most deprived in Scotland
- On average, 38.2% of households in Argyll and Bute are in fuel poverty – spending more than 10% of their annual income on energy – contributing to poor health outcomes and deprivation.
- Woodfuel provides cost-effective heating for affordable housing in Oban and Lochgilphead, tackling fuel poverty; and provides 80% of Campbeltown's 'Aqualibrium' leisure centre's energy needs
- The Core Path Plan proposed a network of over 1000 miles of existing paths and minor roads. Just under 30% of these were made up of Forestry Commission Scotland managed routes and a further 30% followed existing routes on private land.
- Community acquisition and management of woodland through the National Forest Land Scheme is already delivering benefits to local people on Mull – a model which could be replicated in other locations

### **Environment**

- 49 of the 122 Sites of Special Scientific Interest are designated, at least in part, for their woodland (39 for their Atlantic oakwoods). 70% are in unfavourable condition.
- Argyll and Bute contains one of only four UNESCO Biosphere Reserves in Scotland reflecting the presence of 'temperate rainforest' that has survived for almost 6000 years
- Large populations of red, sika and roe deer provide economically important resource, but also have the potential to damage sensitive woodland and open ground habitats through overgrazing
- There are seven National Scenic Areas (NSAs) either wholly or partly in Argyll and Bute. Woodland is an important component of most of these.
- Eight National Nature Reserves (NNR), three of which are designated for their woodland conservation interests



**Figure 1: Argyll and Bute's woodland resource**



### Woodland resource in Argyll and Bute

National Inventory of Woodland and Trees	
	Coniferous
	Broadleaved
	Mixed
	Scrub
	Semi-natural ancient woodland
	Ancient woodland

**Figure 1: Argyll and Bute's woodland resource**

## **WHAT IS THE STRATEGY, AND WHAT IS IT FOR?**

- 1.8. The Argyll and Bute Woodland and Forestry Strategy is a planning policy document that presents the vision of how the forestry industry can contribute to the economy, communities and the environment of Argyll and Bute.
- 1.9. The strategy is being developed as statutory supplementary planning guidance which will be adopted as part of the Argyll and Bute Local Development Plan. The strategy integrates with other Argyll and Bute Council and partnership strategies and action plans, including Argyll and Bute Council's Core Path Plan, Argyll and Bute Council's Economic Development Action Plan and the Argyll and Bute Renewable Energy Action Plan Strategy.
- 1.10. The strategy has a time horizon of at least 20 years, though it is likely there will be an opportunity to review it after five years. The strategy sets out long, medium and shorter term objectives.
- 1.11. The strategy sets out the role that Argyll and Bute can play in helping to achieve the Scottish Government's target of 25% woodland cover in Scotland by 2050.
- 1.12. The principle of partnership is fundamental to developing and implementing this strategy, since so many interests are potentially affected by woodland and forestry. Wide-ranging consultation with communities, stakeholders, industry representatives, environmental groups and statutory agencies has therefore been central to ensuring the strategy accurately reflects the specific issues affecting the practice of forestry in Argyll and Bute. Similarly, there are major opportunities for communities, landowners, and the agricultural and conservation sectors to contribute to and benefit from the achievement of the Strategy's aims.
- 1.13. The strategy applies to all forms of woodland and forestry activity in Argyll and Bute. In this context, 'woodland' ranges from semi-natural and ancient woodlands to the extensive planted conifer woodlands found across the area.

## **WHY IS IT BEING DEVELOPED?**

- 1.14. The current Indicative Forestry Strategy (IFS) covering Argyll and Bute was produced in 1995 as part of the Strathclyde Structure Plan, and does not effectively address many of today's issues – notably climate change and the related issue of renewable energy. Similarly, the direction of forestry policy and practice has changed significantly since 1995, with different support regimes and a greater emphasis on the creation and management of high quality woodlands which deliver a wide variety of public and private benefits.
- 1.15. A commitment was made in the 2002 Argyll and Bute Structure Plan to review the existing IFS.

## STRUCTURE OF THE STRATEGY

- 1.16. The Strategy has been structured around the seven Scottish Forestry Strategy (SFS) Themes of:
- Climate Change;
  - Timber;
  - Business Development;
  - Community Development;
  - Access and Health;
  - Environmental Quality; and
  - Biodiversity
- 1.17. These themes are not mutually exclusive – the forestry sector fulfils a wide range of roles and links to many policy agendas. Most of these roles and links provide multiple benefits – for example, biomass has recently become an important economic timber product from Argyll and Bute’s woodlands but also delivers social and environmental benefits as a locally-sourced form of renewable energy contributing to climate change mitigation. Users should read the strategy as a whole to ensure that proposals for woodland management or expansion take into account the wider potential for adverse environmental impacts – and opportunities to add value.
- 1.18. **Strategic Priorities** are defined under each of these seven themes. These are backed by more detailed **Priority Actions** set out in Section 11 of the Strategy.
- 1.19. It is important that forestry is recognised as a truly multifaceted sector, providing potential benefits to everyone in society.
- 1.20. This strategy does not cover the area of Argyll and Bute within the Loch Lomond and the Trossachs National Park. However, the Strategy will link closely with the Woodland and Forestry Framework for the Loch Lomond and Trossachs National Park, which is currently under review.

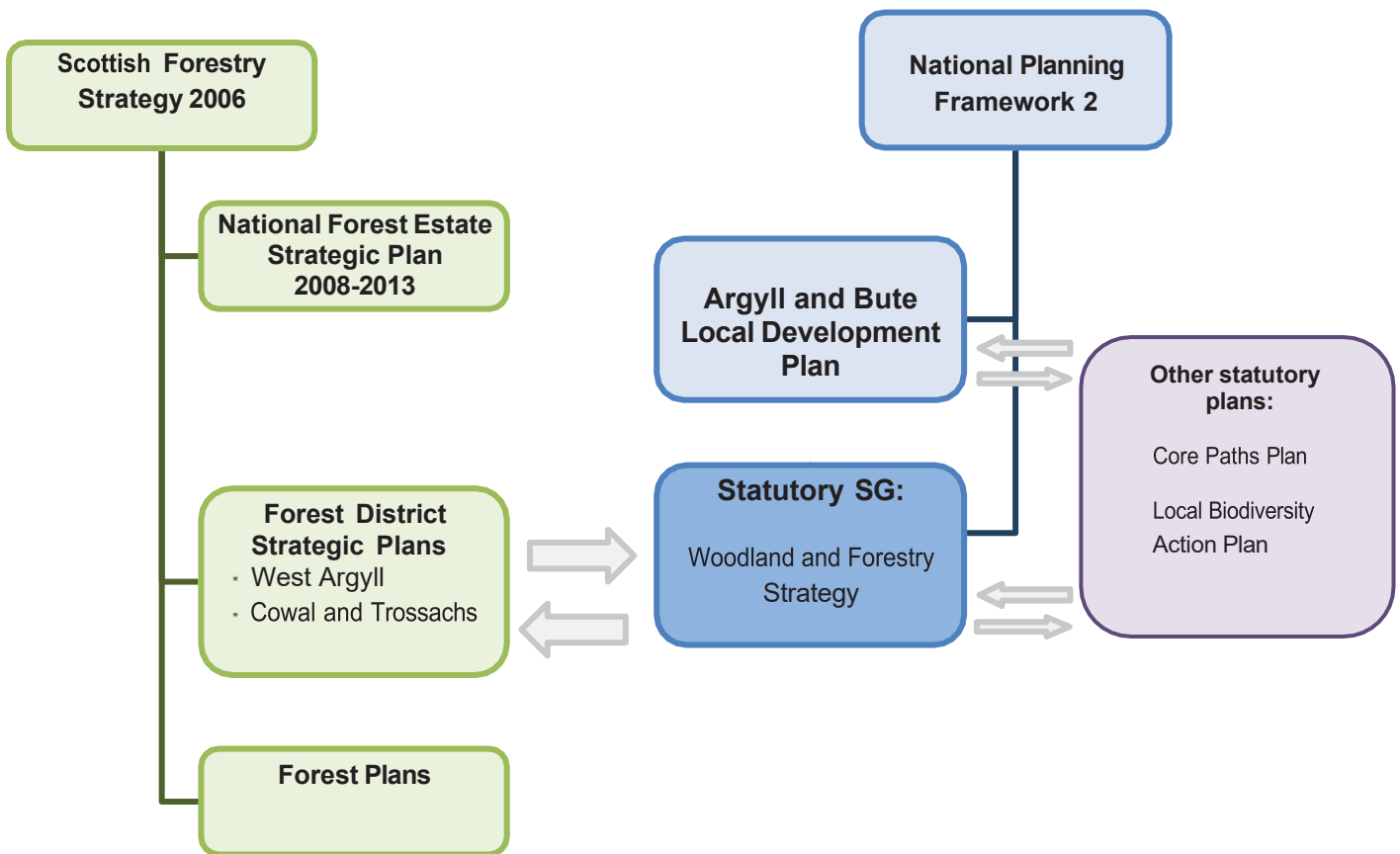
### Terminology

The emphasis of current Scottish Government policy makes the delivery of multiple benefits from all woodland – regardless of origin – a necessity. In line with this policy, this strategy uses the term ‘**woodland**’ throughout to refer to all areas of land, over 0.25 hectares in area, where trees are growing. Where clear differentiation is required, ‘softwood forest’ or ‘forest block’ is used to denote areas planted with introduced conifers, generally 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.

## CONTEXT OF THE STRATEGY

- 1.21. The Strategy was drawn up based on guidance provided by Scottish Development Department Circular 9/1999 and revised in light of its replacement, *'The Right Tree in the Right Place: Planning for forestry and woodlands'*, issued by FCS during the development of the Strategy.



Note : Non statutory documents such as the Argyll and Bute Council's Economic Development Action Plan and Sustainable Design Guides and the Argyll and Bute Renewable Energy Action Plan prepared by the Community Planning Partnership have also been taken into account during the development of the Woodland and Forestry Strategy.

**Figure 2: Policy relationships of WFS**

- 1.22. As **statutory supplementary guidance**, it forms part of Argyll and Bute's development plan and is therefore a material consideration in planning decisions as defined by Paragraph 25 of the Scottish Planning Policy and Annex A of Circular 4/2009 *Development Management Procedures*.

- 1.23. Woodland creation and management proposals in Argyll and Bute are expected to conform to the following policy and guidance documents:
- UK Forestry Standard
    - Updated Forest Guidelines, as these become available
    - Practice Guides and notes
  - [Forestry Commission Scotland policies and guidance](#)
- 1.24. Ideally, proposals will also comply with the UK Woodland Assurance Standard (UKWAS).
- 1.25. Although focussed on Argyll and Bute, the Strategy is set within the context of the **Scottish Forestry Strategy**, produced in 2006 by Forestry Commission Scotland. It provides an opportunity to identify and develop local priorities which fit within national objectives, building on those set for the National Forest Estate by the **West Argyll** and **Cowal and Trossachs Forest District Strategic Plans**.
- 1.26. As woodland management and expansion proposals have the potential for both positive and negative environmental effects, larger schemes and proposals in sensitive areas are likely to require assessment under the **Environmental Impact Assessment (Forestry) (Scotland) Regulations 1999**, as amended.
- 1.27. In addition, an **appropriate assessment** under the Habitats Regulations will be required for all proposals which are likely to have a significant effect on a Natura 2000 site. Permission for such schemes will only be granted where the conclusions of the assessment show that it will not adversely affect the integrity of the Natura 2000 site<sup>1</sup>.

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<sup>1</sup> Regulation 48 of The Conservation (Natural Habitats, &c.) Regulations 1994, as amended

## **USING THE STRATEGY**

- 1.28. The Strategy is intended to be accessible and useful for all sections of society that may have an interest in woodland and forestry issues.

## **ARGYLL AND BUTE COUNCIL**

- 1.29. As statutory supplementary guidance, the Council will use the Strategy to inform consultations on applications for woodland creation and management grants. The Strategy provides a framework by which proposals can be judged against priorities for action (set out in Section 11 of this document) and links with the Scotland Rural Development Programme (SRDP) Rural Priorities. It will also be used to inform the Council's Economic Development Action Plan, as appropriate.

## **FORESTRY COMMISSION SCOTLAND**

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

## **WOODLAND MANAGERS AND DEVELOPERS**

- 1.31. The Strategy provides a clear indication of the Council's vision for how the woodland resource and forestry industry in Argyll and Bute should develop over the coming 20 years. The actions and priorities established in Section 11 provide clear guidance on what type of woodland management and creation schemes 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 objective of this Strategy are a strong justification for approval.

## **COMMUNITIES**

- 1.32. The Strategy provides communities with a useful insight into the key issues, and the likely 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 Council expect woodland and forestry to deliver to local people.
- 1.33. Argyll and Bute's woodlands are a major resource for its people, providing employment and business opportunities, high quality environments and a largely untapped energy reserve. They also provide a range of less tangible benefits, known as 'ecosystem services' – such as clean air, protection from landslides and erosion and carbon storage – which contribute to everyone's wellbeing. The policies and actions set out in the Strategy ensure that local people have assurances that these interests will be safeguarded and enhanced.
- 1.34. The Strategy also provides an indication of the types of community ownership / management schemes that the Council will support, where planning considerations can be satisfactorily addresses, and the types of social, economic and environmental benefits that should be generated.





## **2. WOODLAND AND FORESTRY IN ARGYLL AND BUTE**

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### **INTRODUCTION**

- 2.1 This section provides an overview of woodland and forestry in Argyll and Bute and their contribution to the environmental quality, recreation and tourism and the wider economy. It draws on a more detailed technical note which informed preparation of the strategy and which is available as a separate document.

### **IMPORTANCE OF WOODLAND AND FORESTRY**

- 2.2 The forestry industry, through planting, harvesting, management and maintenance activities and timber transport makes a major contribution to Argyll and Bute's economy and employs a relatively large number of people, particularly in rural areas. Foresters in Argyll and Bute have been very innovative in adapting to the market and economic conditions which, given the terrain and distance from markets, have always been challenging. In addition to the direct economic contribution, tourism and recreation focussed on woodland and forest areas adds an important dimension to regional income.
- 2.3 There is relatively little value added to timber within Argyll and Bute, with only one larger sawmill at Cardross at the extreme south-east of the area. This reflects the general tendency for large-scale processing and production to be located in accessible locations close to markets and communication links. The dispersed and remote nature of Argyll and Bute makes it unlikely that there will be investment in significant processing plant in the area, though there remains an understandable aspiration to realise this. However, there is potential to add value in different ways: most significantly by developing biomass as a source of low carbon energy; through development of smaller-scale local processing centres and wood-using businesses; expanding the hardwood sector and developing appropriate markets; and, local production and sourcing of building materials such as large logs, typically Douglas fir and larch, to reflect the growing interest in sustainable design and construction.
- 2.4 Woodlands can, and should, be managed to provide a variety of habitats for a wide range of plant and animal species, are major carbon stores and convey a range of benefits to communities and visitors alike. As such a major land use, woodlands are also central to the character of much of Argyll and Bute's landscape and identity. Managing this resource to address such a diverse range of objectives and agendas is a complex challenge which the public and private forestry sectors have grasped in partnership with key stakeholders and has enabled the sector to evolve beyond the production of timber, important though that remains.



## THE WOODLAND RESOURCE

- 2.5 Argyll and Bute is one of the most densely wooded of Scotland's local authority areas, with around 30% (over 2000km<sup>2</sup>) of the total land area under woodland of varying types<sup>2</sup>, compared with the Scottish national average of 17%.
- 2.6 Argyll and Bute contains around 15% of Scotland's woodland resource, around half of which is managed by Forestry Commission Scotland on behalf of the Scottish Ministers. The remaining resource is owned and managed by a variety of private interests, ranging from large estates to small-scale farm woodlands.

### *Historic Coverage and Planting*

- 2.7 Argyll and Bute has seen some of the most significant increases in woodland coverage of any region in the UK over the last 100 years. In 1924, approximately 4% of the land area was afforested<sup>3</sup>. By 2000, this had reached the current level of land coverage – a seven-fold increase.
- 2.8 The first moves towards organised, industrial woodland management were centred on the extensive semi-natural oak woodlands in mid-Argyll such as Fearnoch, Glen Nant and Inverliever. These were systematically exploited through coppicing to support iron-smelting in the 18th and early 19th centuries. The Bonawe Ironworks near Taynuilt remain as an impressive historic reminder of the era, together with sizeable remnants of oak woodland.
- 2.9 Some pioneering work on afforestation was undertaken by local lairds during the 17th century, gaining pace through the 19th century as estates sought to maximise the potential of their landholdings. One of the earliest state involvements in forestry was established by the Office of Woods and Forests at Inverliever in 1907, some 12 years before the Forestry Commission was established.
- 2.10 However, major planting began in 1919 following the creation of the Forestry Commission – Argyll and Bute was prominent virtually from the beginning with early FC woodlands at Inverliever, Benmore and Glenbranter. These woodlands have now had at least one rotation of trees grown, felled, and re-planted and demonstrate how non-native conifers can become part of the landscape over time. Significantly, the major woodland expansion in the area took place relatively recently during the 1960s, 70s and 80s. As these woodlands mature, are felled and re-planted so a similar process is likely to occur.
- 2.11 Conditions on the lower, mineral soils and sheltered parts of Argyll and Bute are conducive to tree growth and a wide variety of trees can be grown for timber production. Sitka spruce, and to a much lesser extent Douglas fir, have proved the most productive of these, whilst broadleaves also grow vigorously. The current tallest tree in Europe is located in Argyll and Bute, providing evidence of the how suitable these locations are for tree growth. Conifers form the main timber crop grown in Argyll and Bute for two reasons: they are the timber demanded by current

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<sup>2</sup> Figures from the National Inventory of Woodland and Trees and planted areas of FCS Grant Schemes spatial data

<sup>3</sup> Source: FCS Perth and Argyll Conservancy using NIWT data

markets, and they are capable of good growth in the varied site conditions found throughout the area. Native broadleaves and other conifer species – including Scots pine and larch – can also produce high quality timber, but this is generally restricted to better quality, less exposed sites. Conifers introduced from the Pacific Northwest are, given the similarities in climate and conditions, particularly suited to being grown in Argyll and Bute. The area has a long and distinguished history of experimenting with such introductions, as evidenced by the fine arboreta at Crarae and Inveraray.

- 2.12 After the Second World War, the emphasis on domestic food production meant that most new planting was directed onto the poorer and wetter uplands of Argyll and Bute. Here, Sitka spruce has been the only tree able to reliably thrive and produce volumes of timber on these constrained sites. Second rotation conditions allied with greater silvicultural knowledge may allow a wider variety of trees to be managed for timber production in the future though, at present, it is likely that Sitka spruce will remain Argyll and Bute's 'bread-and-butter' timber tree.
- 2.13 In recent years, as indicated by Figure 4 and Figure 5 below, the proportion of native, broadleaved woodland planted has increased significantly, improving the landscape and biodiversity values of man-made woodlands and enhancing habitat connectivity.

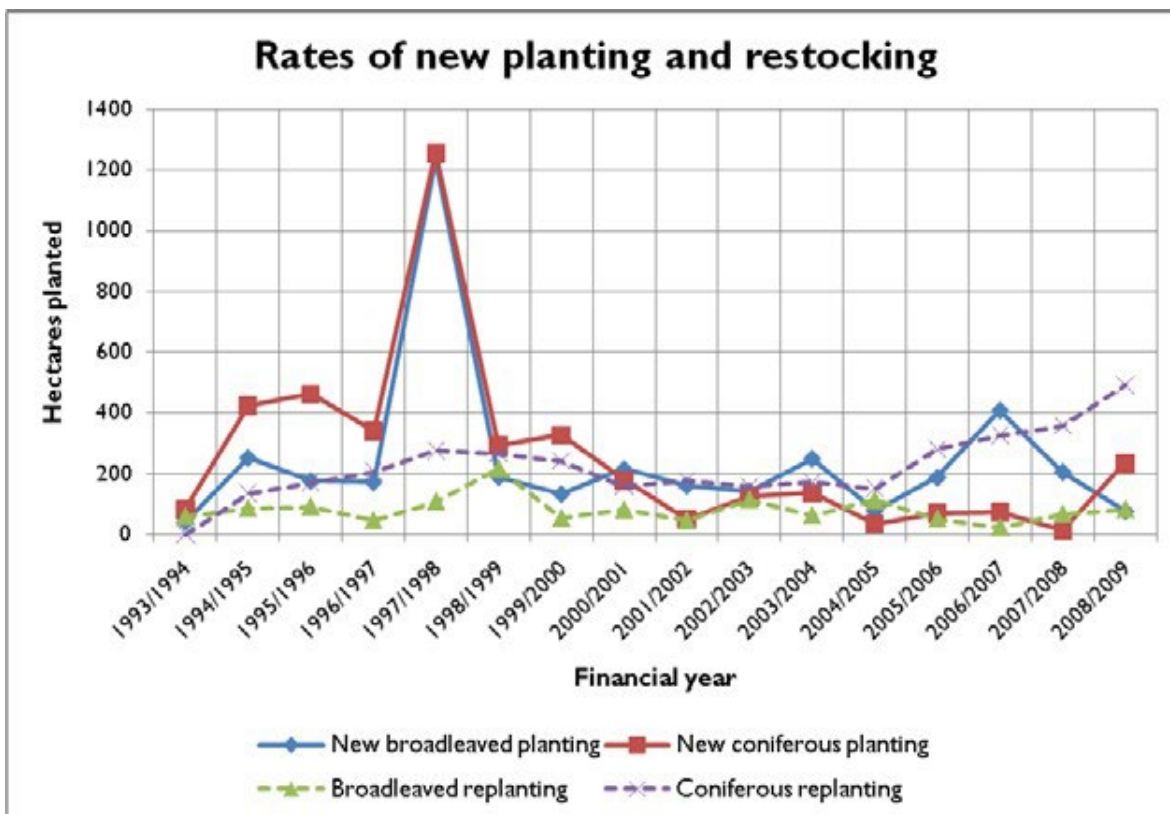


Figure 3: Comparative rates of new planting and restocking (FCS figures)

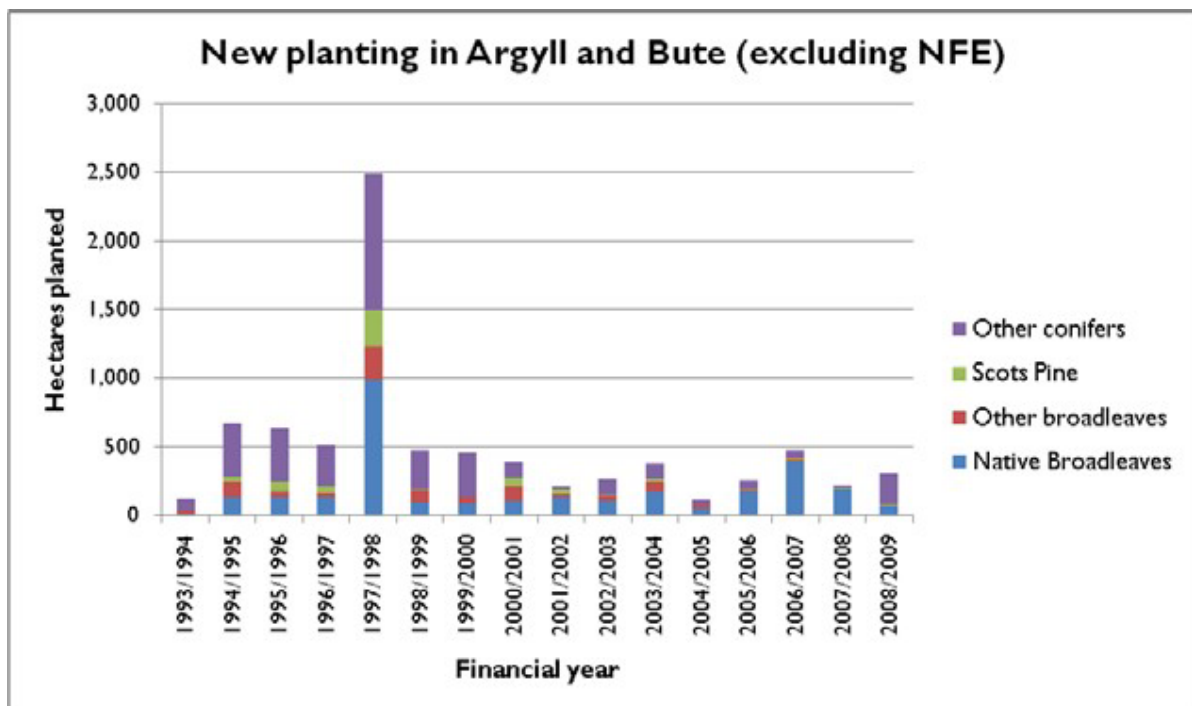


Figure 4: New planting in Argyll and Bute, 1993-2009 (FCS figures)

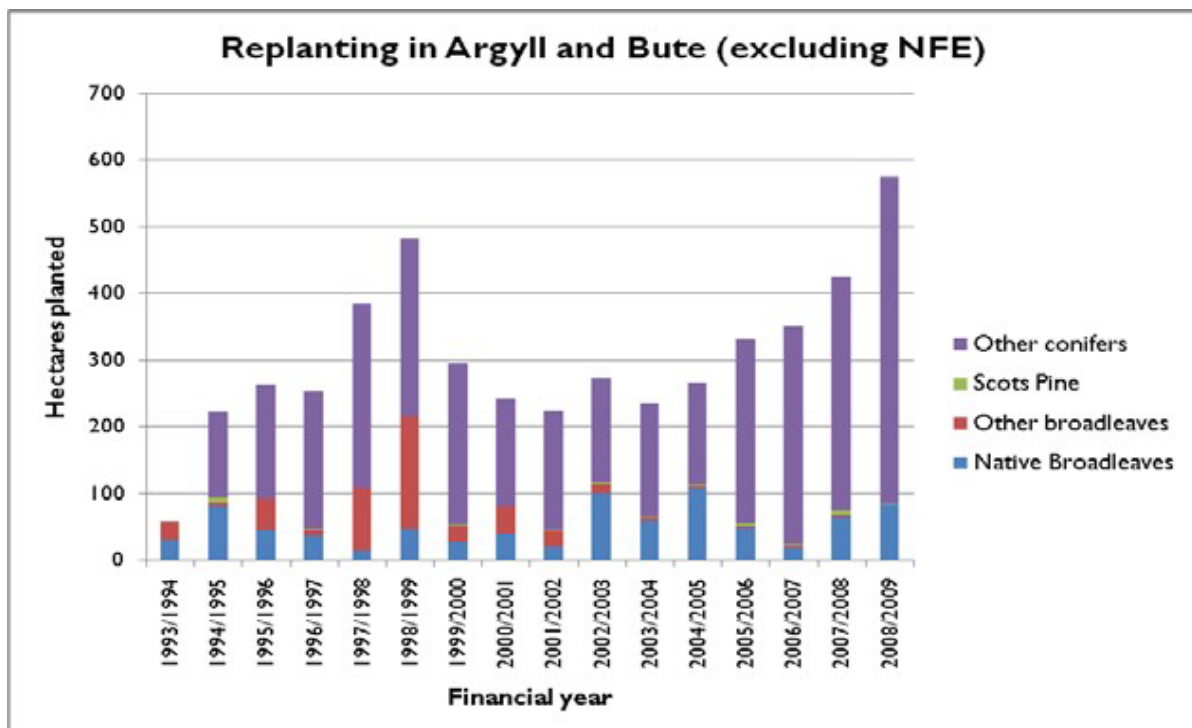


Figure 5: Replanting in Argyll and Bute, 1993-2009 (FCS figures)

### ***Woodland Composition***

- 2.14 Based on the National Inventory of Woodland and Trees for the former Strathclyde Region and more recent FCS Perth and Argyll Conservancy data, the current proportions of woodland type across Argyll and Bute are estimated to be:
- 71% Conifer;
  - 15% Broadleaf;
  - 2% Mixed;
  - 12% Open Ground (within the forest).
- 2.15 The topographic, soil and climatic conditions in the area are such that Sitka spruce, which can produce quality timber on wet and poor-quality ground where other trees struggle, is by far the dominant tree in softwood forests. This predominance is also a reflection of market demand. However, the topographic and geographic factors can make many sites hard to work, as steep slopes and remote locations make harvesting more difficult – and thus more expensive and more marginal – than other locations.
- 2.16 The native woodland of the area is largely broadleaved in character and is dominated by upland birchwoods. However, it is the area's oak woodland that embodies the character and importance of the native woodland resource. Recently, Atlantic hazelwoods have begun to be recognised as a key habitat virtually unique to western Scotland<sup>4</sup>. They can reasonably be considered to be of international significance in their own right and for the extensive communities of lower plants which they support – although they are not currently recognised in European legislation or the National Vegetation Classification. North Lorn also hosts the most southerly and westerly examples of 'Caledonian' pinewoods in Scotland. At the limits of their range, these woodlands represent the transition zone between the Atlantic broadleaved 'rainforest' and the ancient pinewoods of Highland Scotland.
- 2.17 In total, 41 of Argyll and Bute's 109 Sites of Special Scientific Interest (SSSI) are designated, at least in part, for their woodlands – an area of around 20,000 ha (equivalent to around 3% of the total land area of Argyll and Bute). Of these, 35 sites are notified for Atlantic oakwoods, reflecting the habitat's importance for a range of species, notably lichens, bryophytes and invertebrates. Argyll and Bute also has 29 Special Areas of Conservation (SAC), internationally protected sites of value for a range of species/habitats.

### ***Production, Employment and Value Added***

- 2.18 Current levels of production are estimated at around one million cubic metres per annum, around one sixth of the Scottish total. This figure is likely to rise over the next 10-20 years as the woodlands planted in the 1970s and 1980s reach maturity. It is likely that at its peak, production will be between 1.5m and 2m cubic metres per annum during this period, as greater amounts of private sector material is harvested.

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<sup>4</sup> A few examples of the habitat survive in western Ireland

- 2.19 Around 70% of production is saw log material (a significant proportion of which has been exported to Ireland in the recent past). The use of sea transport is an increasingly important aspect of the timber industry in Argyll and Bute. The TimberLINK service ships more than 200,000 tonnes of timber per annum from the four ports of Ardrishaig, Campbeltown, Portavadie and Sandbank to Ireland, Troon in Ayrshire and locations elsewhere in Europe, where it is moved to local wood processing plants. This removes around 8,000 (one-way) road journeys – equating to approximately 1.4 million timber lorry km for 2009/10 – a year from roads between Argyll and Bute and Ayrshire, including the busy tourist routes and the A82, saving an average of 355,000 litres of fuel per year<sup>5</sup>. Timber transport is likely to become an even more important issue, given the projected increase in production volume as mature blocks are harvested, increasing pressure on already strained infrastructure – in parallel with rising fuel prices and a need to reduce overall carbon emissions – making the development of more sustainable solutions a high priority.
- 2.20 The importance of the forestry sector to the economy of Argyll and Bute is shown by the levels of employment it generates. Research undertaken by FCS<sup>6</sup> in 2008 provided estimates for employment generated by the forestry sector at a national level. Using this information, some pro rata estimates for Argyll and Bute can be made. It is estimated that the forests of Argyll and Bute support (in Argyll and Bute and beyond):
- **1292** full time equivalent jobs (Direct employment); and
  - **2255** full time equivalent jobs (tourism and recreation).
- 2.21 From a similar pro rata estimate the direct Gross Value Added (GVA) of timber from Argyll and Bute is estimated to be approximately £58 million. The GVA attributable to visitor spending is estimated to be £26 million. The total GVA for Argyll and Bute is estimated at around £1200 million. These figures further demonstrate the importance of the forestry sector to the economy of Argyll and Bute.

### ***Landscape and Environment***

- 2.22 The environmental quality of Argyll and Bute is one of its key assets, and woodlands are a defining characteristic of its landscape. The relatively high proportion of coverage means that trees and woodland are a prominent feature throughout the area, and their contribution to the qualities of the landscape should not be underestimated. A large proportion of this is made up of planted conifer woodlands but there are still significant remnants of semi-natural native woodlands – this mixture creates a wide range of habitats and resources for humans, flora and fauna.
- 2.23 The climate and physical characteristics of the sheltered lower slopes of Argyll and Bute provide some of the best growing environments for trees in Europe, especially for those introduced tree species which now underpin the Scottish forestry sector.

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<sup>5</sup> TTR Ltd. 2010 *TimberLINK Environmental Benefits Review* Forestry Commission Scotland  
[http://www.forestry.gov.uk/pdf/TimberLINKEnvironmentalBenefitsReviewFinalReport.pdf/\\$FILE/TimberLINKEnvironmentalBenefitsReviewFinalReport.pdf](http://www.forestry.gov.uk/pdf/TimberLINKEnvironmentalBenefitsReviewFinalReport.pdf/$FILE/TimberLINKEnvironmentalBenefitsReviewFinalReport.pdf) Accessed 30/09/10

<sup>6</sup> The economic and social contribution of forestry for people in Scotland. FCS, September 2008.  
[http://www.forestry.gov.uk/pdf/fcm102.pdf/\\$FILE/fcm102.pdf](http://www.forestry.gov.uk/pdf/fcm102.pdf/$FILE/fcm102.pdf)

The presence of a large number of specimen trees, including some of Europe's tallest, exemplify this. However, as described earlier, much of the forest in Argyll and Bute is located on poorer quality and more exposed uplands which limit the type of woodland that can be successfully established.

- 2.24 Woodlands act as a major carbon store. It is estimated that trees in Argyll and Bute sequester around 0.6million tonnes of carbon each year, with a further 11million tonnes stored in standing timber. In addition the carbon locked in the soils because of the presence of woodland is around double that stored in the trees<sup>7</sup>. This compares with estimated annual emissions of 0.9 million tonnes of CO<sub>2</sub> per annum for Argyll and Bute, based on a per capita contribution to Scotland's national emissions from all sources, including land use change and forestry, but excluding international aviation and shipping<sup>8</sup>. While new woodland is an excellent means of sequestering atmospheric carbon and will play an important role in Scotland's response to climate change mitigation, protecting sensitive peat soils – major carbon stores in their own right – is critical to prevent unnecessary carbon liberation.
- 2.25 Trees and woodlands also provide a vital range of ecosystem services, including clean air, flood attenuation and land stability, and direct climate regulation in the form of shade and shelter. Maintaining a healthy natural environment is integral to the health, wellbeing, happiness and economic prosperity of Argyll and Bute. Protecting these resources is therefore a priority of this Strategy.
- 2.26 The growth in use of biomass as a fuel source also helps to reduce the amount of CO<sub>2</sub> released into the atmosphere by displacing fossil fuels. The contribution of materials that would once have been by-products from management, harvesting and processing are particularly important in this.
- 2.27 Argyll and Bute's woodland is also vital to the ecology and biodiversity of the region and nation. The importance of these habitats across Argyll and Bute is clear from the large proportion of national and international designations that they hold. European designations (Natura 2000 Sites<sup>9</sup>) also recognise the contribution Argyll and Bute woodlands and woodland managers make to UK and European woodland conservation and enhancement. Woodland planting and management in areas neighbouring these designated sites has potential to further enhance their biodiversity importance and contribute to wider habitat networks.
- 2.28 Argyll and Bute's woodlands support some of the most diverse communities of lower plants in the world, including endemic lichens and internationally scarce fungi. Important faunal species which depend on woodland habitats in Argyll and Bute include red squirrel<sup>10</sup>, bats, black grouse, and the pearl bordered fritillary butterfly, while Knapdale is the location for the current beaver reintroduction trial.

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<sup>7</sup> Source: 'Combating Climate Change: A Role for UK Forests (2009). The Stationary Office, Edinburgh.

<sup>8</sup> Based on national CO<sub>2</sub> emissions of 53.71Mt CO<sub>2</sub> in 2008, and Argyll and Bute representing 1.7% of Scotland's population – data from ONS and Scottish Neighbourhood Statistics

<sup>9</sup> Special Areas of Conservation (SAC) – designated under the EU Habitats Directive (92/43/EEC); and Special Protection Areas (SPA) – designated under the EC Birds Directive (79/409/EEC)

<sup>10</sup> There are three key red squirrel strongholds in Argyll and Bute – Eredine, Inverliever and Kilmichael – which are a key part of the overall squirrel conservation strategy for Scotland





### 3. THE STRATEGY

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- 3.1 This section of the strategy establishes the strategic vision for woodland and forestry in Argyll and Bute.

#### VISION

- 3.2 The following Vision for woodland and forestry in Argyll and Bute has been defined following the research and consultation undertaken to develop this strategy:

**The woodlands of Argyll and Bute will make a significant contribution to climate change mitigation and adaptation, have significant levels of economic value retained locally, enhance biodiversity and environmental quality and support the further development of recreation opportunities, for the benefit and well-being of local people and visitors alike. Sustainable and responsible stewardship of the resource will enable communities to play an active role in the ownership and management of woodlands in their area, developing business opportunities and helping to maintain the viability of rural living.**

- 3.3 This Vision sets out in broad terms the aspiration for woodland and forestry in Argyll and Bute. In order to achieve this vision, a series of Priority Actions have been identified under each of the thematic chapters that follow.
- 3.4 Achieving this Vision will also require the continued development and renewal of the woodland resource. The following section outlines a potential approach to woodland and forestry creation/management in Argyll and Bute.

#### FUTURE EXTENT OF WOODLAND AND FORESTS

- 3.5 As previously noted, around a third of the land area of Argyll and Bute<sup>11</sup>, totalling over 200,000ha, is currently covered by woodland. Of this, over 71% is coniferous planted woodland. Much of this dates back to the 1960s, 1970s and 1980s, since when there has been a marked decline in new woodland planting. The future extent of forests and woodlands in Argyll and Bute will be influenced by two related processes. The first is the cycle of harvesting, restructuring and replanting of existing areas of planted woodland. The second is the potential expansion of woodland cover, taking the form of new planting for timber production – comprising native and introduced conifers and broadleaves alike – together with native woodland expansion to develop habitat networks and reinforce the value of existing assets. Taking these two processes together, this strategy aims to ensure that the total area of woodland and forests in Argyll and Bute increases over coming decades, contributing to national targets, but also meeting a wide range of economic, environmental and community objectives across the area.

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<sup>11</sup> Excluding the area within the Loch Lomond and Trossachs National Park; afforested area calculated from NIWT, WGS and Ordnance Survey spatial data (OS Licence Number 100019265)



## **Existing Woodland and Forests**

- 3.6 Some areas that were planted in the past would not be considered suitable under modern criteria. Woodland restructuring, forest habitat network creation and more considered replanting after felling, should significantly mitigate the effects of this over time. However, by avoiding replanting with inappropriate tree/woodland types in unsuitable locations, and through the inclusion of a higher proportion of open space, it is possible that the net area under forest cover will decrease. For example, feedback from existing approved Forest Plans suggests that between 7 and 8% of all approved clear-felling will not be restocked as part of the restructuring of first rotation woodland (including plantations being removed from sites with greater environmental value as open ground habitat) – resulting in some 15,000ha being removed from woodland. This underlines the importance of creating additional, locally-appropriate woodlands of all types in order to maintain the existing level of tree cover and to safeguard future timber supplies.
- 3.7 Similar issues have arisen in recent years as a result of windfarm development in afforested areas. The requirement for clear areas around turbines has in some cases resulted in a loss of woodland cover. The Scottish Government's policy on 'Control of Woodland Removal' has clarified how such proposals should be considered by the Planning Authority. This requires that any woodland loss proposed as a consequence of development should either be amended to avoid such loss or offset by compensatory planting on the part of the developer. This will help maintain the current extent of woodland and its carbon sequestration potential.

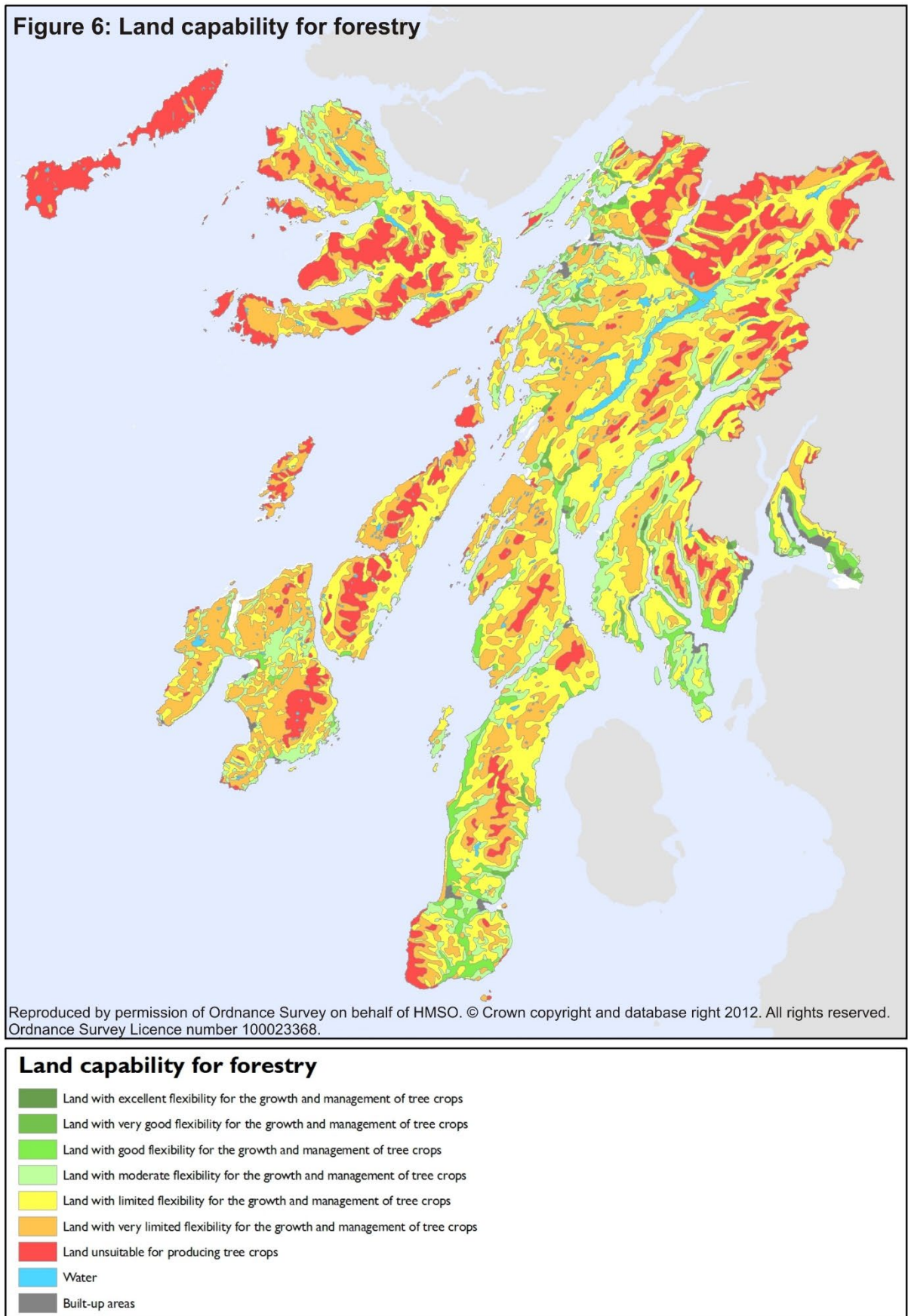
## **Woodland Expansion**

- 3.8 Although, by comparison with many other parts of Scotland, Argyll and Bute has a relatively high proportion of woodland cover, the topography and climate, together with a limited range of alternative land uses, mean there remains potential for multi-benefit woodland expansion.
- 3.9 Current policy drivers for woodland creation will ensure an appropriate mix of tree species are utilised in the expansion of Argyll and Bute's woodland resource, ensuring that multiple social, environmental and economic benefits are optimised.
- 3.10 The pioneering work of traditional estates and of the FC in the early part of the 20th century has created attractive mixed forests which serve as useful models on how good forest management can integrate a number of management objectives by sound management planning and forest design. The multi-objective model of woodland management – incorporating timber and biomass production, carbon sequestration, biodiversity and landscape enhancement, the protection of ecosystem services and the increasing role of public and community benefits and participation – will ensure that Argyll and Bute's woodlands are a more resilient, flexible and sustainable resource for future generations.
- 3.11 Appropriate woodland creation could support further diversification of upland pastoral farms and extensive sporting estates which remain the predominant land uses for much of the open land in Argyll and Bute. However, any expansion should protect key agricultural resources, avoiding fragmentation of holdings and ensuring that land which is likely to become viable for cultivation due to the effects of climate

change is safeguarded. Successful delivery will depend on securing the involvement of tenant farmers who often have little incentive to make the long term investment that woodland creation requires. Developing a beneficial mixture of native woodlands and softwoods to enhance landscape and habitat values, create an utilisable resource for local/on-farm timber and biomass use.

- 3.12 The native woodland resource of Argyll and Bute should be considered a nationally important resource, hosting a range of iconic and often internationally scarce species and habitats. While the protection of the remaining resource is secured through designations and appropriate planning and forestry policy, enabling the natural regeneration and expansion of key sites is a priority. Creating links, expanding habitat corridors and enhancing woodland edge and interface habitats is also important – building functioning ecosystems and combating fragmentation. Similarly, ensuring that important sites and habitats are afforded appropriate ‘climate space’ to enable adaptation to the likely effects of climate change should be the focus of close monitoring, planning and cooperation between the Council, statutory agencies, communities, land managers and other bodies with an interest in biodiversity issues. This will ensure that expansion is focused where it is ecologically appropriate and where most value can be added.
- 3.13 Securing an appropriate mix of species through careful woodland design will be central to ensuring that the broadest possible range benefits are conveyed in the most appropriate locations. While market, climatic and ground conditions dictate that Sitka spruce is likely to remain the principal timber tree across the region, maximising the potential for new and restructured conifer forests to incorporate native woodland – either through new planting or enhancing and expanding existing features – can significantly enhance landscape and biodiversity values. Similarly, opportunities for diversification of the timber resource should be explored on suitable sites, tapping into and developing markets for softwoods and hardwoods alike.

**Figure 6: Land capability for forestry**



**Figure 6: Land capability for forestry**

Land Capability for Forestry (flexibility for the growth and management of tree crops)	Total (ha)	Proportion of Argyll and Bute	Existing afforestation (ha)	Proportion of afforested area	Area Remaining (ha)	Proportion of remaining area
Excellent	260	0%	34	0%	227	0%
Very good	8043	1%	776	0%	7267	2%
Good	23115	4%	2415	2%	20699	4%
Moderate	77031	12%	17721	11%	59309	13%
Limited	211128	33%	82840	52%	128288	27%
Very limited	187260	29%	50830	32%	136431	29%
Unsuitable	116265	18%	5441	3%	110824	23%
Other (built-up areas, water)	15613	2%	5441	3%	10172	2%
<b>TOTAL AREA</b>	<b>623102</b>		<b>165498</b>		<b>473217</b>	

**Table 3.1:** Land capability for forestry

- 3.14 Table 3.1 and Figure 6 shows that around 20% of land is physically unsuitable for woodland creation (classed as unsuitable or ‘other’), and a further 29% is assessed as being of very limited potential.
- 3.15 In addition, a significant proportion of Argyll and Bute’s land area is covered by natural heritage (25%) and historic environment (1%) designations<sup>12</sup>. While native woodlands are a characteristic feature of many of these designated areas, and it is possible that some expansion of such woods will be encouraged (for example by the development of habitat networks) these areas are unlikely to be suitable for the creation of areas of new woodlands for timber production. Where designated sites are already within plantations, restructuring offers a major opportunity to add value through habitat enhancement or improvements in access to and interpretation of heritage assets.
- 3.16 A major constraint, particularly for commercial timber and larger-scale biomass operations, will be the capacity of Argyll and Bute’s road infrastructure. Many more remote rural areas do not have the road capacity to sustain large volumes of timber being transported along them unless significant additional investment is made. Proposals for new commercial woodlands in locations where this is an issue (see Agreed Routes Map for Argyll and Bute prepared by the Argyll Timber Transport Group) are unlikely to be approved unless the question of future timber transport is resolved or at least agreed to be resolved in the future. Similarly, the geographic isolation of the islands severely limits the potential for significant expansion for timber production intended for off-island markets, largely due to the additional cost of transport.

<sup>12</sup> Area compiled from SSSI, SPA, SAC, Ramsar, NNR, Scheduled Monument and Gardens and Designed Landscapes spatial data (Listed Buildings and Conservation Areas excluded as in built up areas and LBs only available as point data). It should be noted that the footprint of Scheduled Monuments is not a proxy for the approximate area of historic environment significance – merely the currently designated area.

## CATEGORISATION OF LAND

- 3.17 The land area of Argyll and Bute has been classified by sensitivity to woodland expansion, based on the guidance provided by 'The Right Tree in the Right Place' – FCS and the Scottish Government's recent publication on forestry and woodland strategies. The 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.*

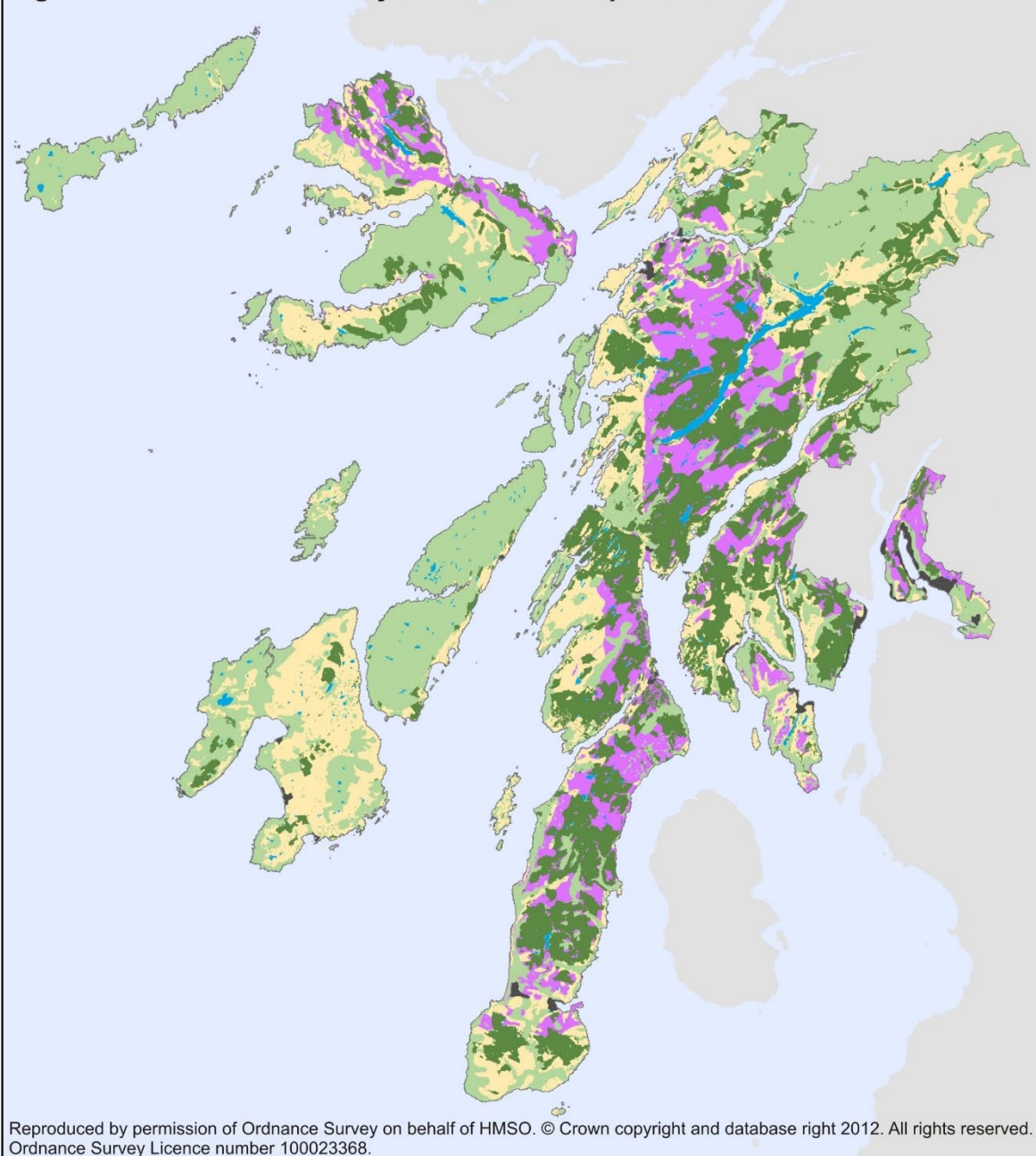
**Sensitive:** *areas where the nature or combination of sensitivities restricts the scope to accommodate woodland expansion or removal. Limited expansion is only likely to be possible where proposals are of a scale and character which can be accommodated without significant negative impacts, and/or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

**Existing softwood forest:** *land that is currently under planted conifer woodland. Management priorities will vary significantly from site to site depending on local conditions and sensitivities.*

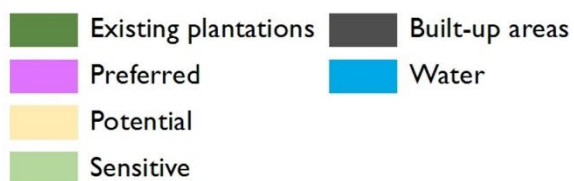
- 3.18 These categories are indicative and it is likely that some areas identified as being suitable for softwood forest for timber production, for example, could be equally suitable for the development of native woodlands or the creation of new habitat network links. As new woodlands are developed and existing blocks restructured, the capacity of the landscape to accommodate further expansion will change – therefore careful case-by-case analysis will continue to determine whether proposals are appropriate. However, the analysis does provide a starting point for the identification of the potential to accommodate woodland planting of different types.



**Figure 7: Indicative suitability for woodland expansion**



**Indicative suitability for woodland expansion**



**Figure 7: Indicative suitability for woodland expansion**

## **Contributing to National Targets for Woodland Expansion**

- 3.19 The Scottish Government aspiration of 25% woodland coverage by the latter half of the 21<sup>st</sup> century is an ambitious target and one which, at current rates of planting, will not be achieved. Argyll and Bute already has woodland and forest cover of around 30%, suggesting it is 'punching above its weight' in terms of contribution to the national target. However, there is a strong case for increasing Argyll and Bute's contribution by expanding woodland cover to address a range of social, economic and environmental objectives.
- 3.20 Argyll and Bute has good conditions for growing a limited range of trees – conditions that could improve if current climate change projections are correct. There is also significant forestry expertise in place with a long track record in woodland creation, management and harvesting enabling the area to benefit from significant economies of scale. The sector is well-placed to facilitate further suitable expansion and the jobs and economic, environmental and social benefits which will arise.
- 3.21 Forestry in Argyll and Bute also has considerable potential to respond to the challenges presented by climate change – providing sources of low carbon heat and power, locking up additional carbon in standing woodlands and in locally sourced building materials, helping us mitigate impacts on the climate.
- 3.22 The historic rate of afforestation in Argyll and Bute during the 20<sup>th</sup> century was, on average, approximately 2,500ha per annum – the majority of which was for softwood timber production. The rate slowed considerably in the 1990s and early part of the 21<sup>st</sup> century, when it fell to around 500ha per annum. The mix of trees planted also altered considerably to around 44% conifer and 56% broadleaved or mixed woodland. The national target for woodland expansion means there is a requirement to plant at least 15,000ha per annum across the whole of Scotland – however, the Scottish Government has resisted setting local or regional targets. Given that Argyll and Bute currently has around 13% of Scotland's woodland cover, this suggests that there may well be scope to support around a net increase of up to 1000ha per annum.
- 3.23 This contribution could be made up of a number of different types of woodland, including conifers and hardwoods for timber, native woodland expansion and forest habitat networks to improve connectivity between existing assets and enhance biodiversity values.
- 3.24 Ensuring that new woodland expansion is integrated with land uses such as agriculture will be critical, in terms of realising the potential for expansion, maintaining a viable agricultural sector and in making a positive contribution to rural incomes. The creation of new woodlands provides a means of diversifying and supplementing agricultural incomes whilst creating shelter for stock, providing a source of woodfuel, and contributing to carbon storage and the development of wider habitat networks. Appropriate woodland creation will continue to offer a viable alternative land use for under-used upland grazing, addressing the continued contraction in hill farming and enabling land inundated with bracken to be brought into positive management. Argyll and Bute is well-placed to develop more integrated

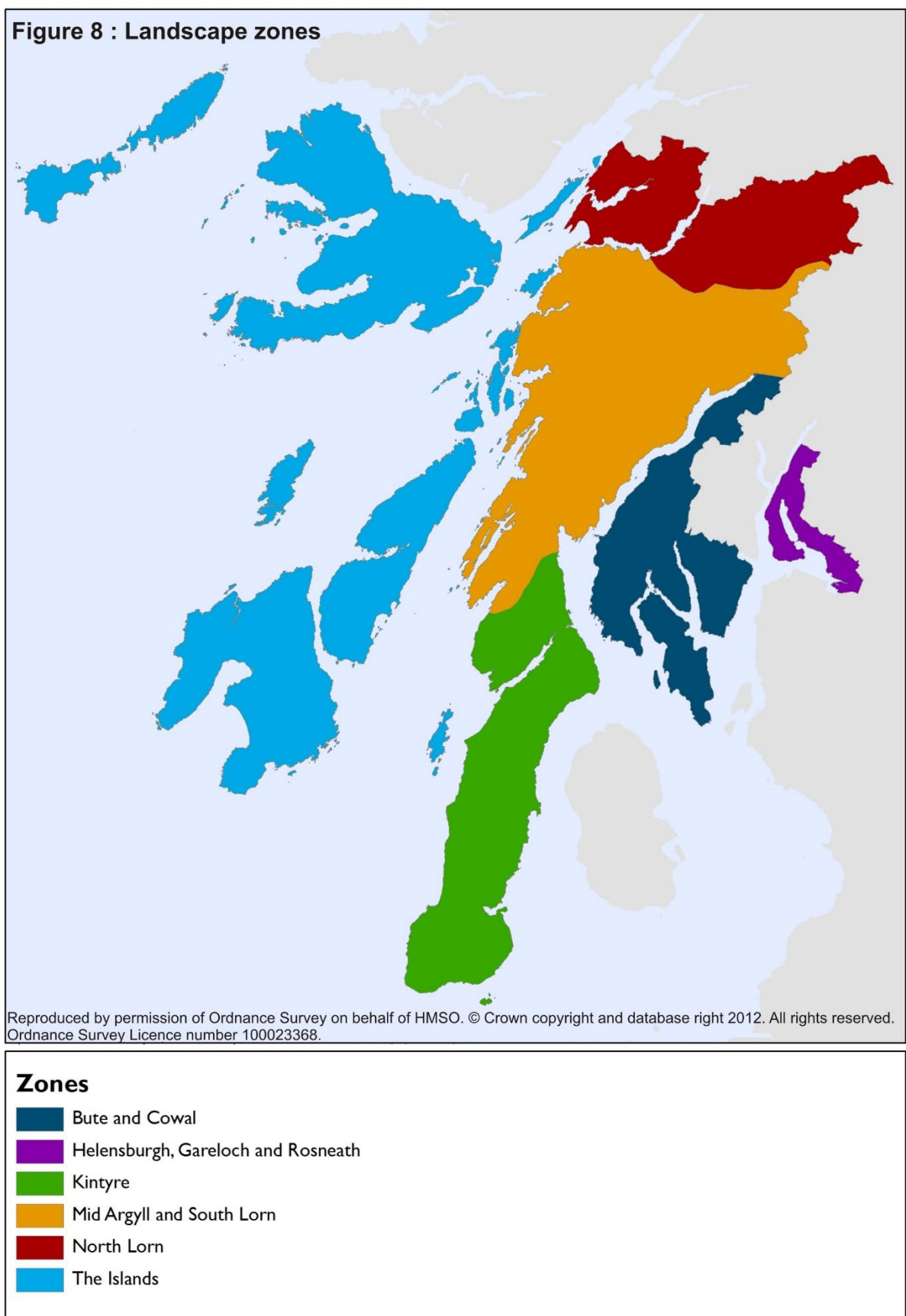
approaches between forestry and farming, something that the SRDP is keen to support. A key challenge, however, is to make investment in new woodlands attractive for agricultural tenants – a group who have not traditionally had the incentive to make long-term investments in the land under their management – and landowners alike.

- 3.25 It will be equally important to encourage a wide range of ways in which the value of woodland and forests can be recognised and retained locally – economically and in terms of recreation provision and the creation of further opportunities for community participation. Developing opportunities for community ownership and management of woodlands also offers an important mechanism to create small-scale woodlands and positively manage existing sites. Expansion also needs to reflect cultural and natural heritage sensitivities, avoiding the most sensitive areas but also finding ways in which new woodlands and forests can enhance key values and people's appreciation of the wider natural and historic environment.
- 3.26 The following section describes in more detail how and where future afforestation could be accommodated in Argyll and Bute. Given the significant variations in physical, social, economic and environmental characteristics with Argyll and Bute, the strategy identifies a series of 'zones' within which different approaches to woodland and forest expansion and management are likely to be appropriate.

## **ZONES**

- 3.27 The identification of 'zones' to help prioritise action on woodland planting is based on an analysis of landscape character, SNH 'Natural Heritage Futures' areas, and a review of the current pattern of woodland. This approach has identified six zones:
- North Lorn;
  - Mid Argyll and South Lorn;
  - Kintyre;
  - Bute and Cowal;
  - The Islands; and
  - Helensburgh, Gareloch and Rosneath Peninsula.
- 3.28 The zones share broad environmental characteristics, potential issues and opportunities for woodland and forestry. Table 3.3 provides information on the potential areas for woodland expansion and management for each of these zones:





**Figure 8:** Landscape zones

**Table 3.3: Potential for woodland creation by Zone**

	<b>Bute and Cowal</b>		<b>Helensburgh, Gareloch, Rosneath</b>		<b>Kintyre</b>		<b>Mid-Argyll and South Lorn</b>		<b>North Lorn</b>		<b>The Islands</b>	
<b>Category</b>	Ha	%	Ha	%	Ha	%	Ha	%	Ha	%	Ha	%
<b>Preferred</b>	9435.9	13%	4408.4	33%	20847.6	22%	30644.7	19%	1182.5	2%	14792.3	<b>8%</b>
<b>Potential</b>	15250.7	21%	584.3	4%	10135.4	11%	27793.9	17%	11427.6	15%	14024.9	<b>8%</b>
<b>Sensitive</b>	16260.0	23%	4222.2	32%	21578.9	23%	32546.6	20%	47858.3	63%	130831.5	<b>71%</b>
<b>Existing softwood forest</b>	<b>28835.8</b>	<b>41%</b>	<b>2139.3</b>	<b>16%</b>	<b>39537.2</b>	<b>42%</b>	<b>63325.3</b>	<b>39%</b>	<b>15325.2</b>	<b>20%</b>	<b>21849.4</b>	<b>12%</b>

*Where percentages do not total 100%, the remaining area comprises open water, built-up areas and unavoidable processing errors created by differing scales of data capture in source GIS datasets*

## NORTH LORN

- 3.29 A significant proportion of this zone comprises upland environments unsuited to large-scale woodland expansion. Much of this upland area is also included within the Glen Etive portion of the Glen Etive and Glen Fyne Special Protection Area (SPA), designated for golden eagle. The conservation of heather moorland, blanket bog, rough grassland and other open ground habitats required by this species and their preferred prey are therefore a high priority and is unlikely to be compatible with large-scale upland woodland expansion. Consequently, these areas are included within the 'sensitive' category of the indicative suitability for woodland expansion map (Figure 7). Any afforestation proposals likely to have a significant effect on the SPA will require Appropriate Assessment as defined by the Habitats Regulations<sup>13</sup>.
- 3.30 Low productivity on some current sites highlights the value of concentrating on enhancing landscape character and biodiversity objectives, particularly where replanting for timber may not be economically viable. Encouraging the regeneration of open and woodland mosaic habitats may be the most appropriate reuse for such sites, whilst maintaining tree cover - albeit of a different kind. Marginal areas therefore have considerable potential to contribute to the creation of habitat networks, as does the restructuring and redesign of existing softwood forests.
- 3.31 Timber production should therefore focus on sites with potential to continue to produce quality and economic timber for established and projected markets while meeting current environmental standards. Harvesting mature forest blocks provides an opportunity to replant productive sites at optimal densities to maximise returns while applying enhanced design standards and, where appropriate, lower impact silviculture. Such techniques may also assist in securing the conservation status of watercourses and sensitive marine environments – such as Loch Creran – through reductions in run-off, sediment loading and acidification.
- 3.32 This zone includes some of Atlantic Scotland's few native pinewoods, and the opportunity to enhance and facilitate natural expansion of these assets. Where climatic and soil conditions allow, more extensive use could potentially be made of Scots pine as a timber tree in restructuring of existing sites in the northwest of this zone.
- 3.33 Promoting improved access to forest land may provide additional leisure and tourism opportunities in the area which can be linked to existing assets, such as the extensive trail network in the Barcaldine Forest and the Glasdrum Woods National Nature Reserve (NNR). There are also opportunities to support greater community involvement in biodiversity, recreation, woodfuel and environmental education projects.

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<sup>13</sup> Regulation 48 of the Conservation (Natural Habitats, &c.) Regulations 1994, as amended.

The SPA qualifies under Article 4.1 of EC Directive 79/409 on the Conservation of Wild Birds as it regularly supports a population of European importance of Annex 1 species golden eagle *Aquila chrysaetos* (19 active territories, comprising more than 4% of the GB population)

## **MID-ARGYLL & SOUTH LORN**

- 3.34 As the largest contiguous zone, Mid-Argyll and South Lorn presents perhaps the most diverse range of opportunities in the area. It includes some of the most productive softwood forests, larger centres of population, key tourist sites and a suite of high quality environmental assets including the nationally important historic landscape of Kilmartin Glen.
- 3.35 Recent changes introduced by the Climate Change (Scotland) Act 2009, enabling FCS to develop the potential of the national forest estate for wind energy generation, may increase the likelihood of continued wind farm development in this zone. This offers a major opportunity for state-owned and other forest land to contribute to the mitigation of climate change and to diversify income streams. This may be particularly significant where opportunities for wind energy coincide with unproductive or low quality timber resources, provided it complies with the Policy on Woodland Removal, local and national planning policy and where other environmental constraints allow.
- 3.36 Many of the large conifer blocks in this zone are approaching, or have reached, maturity. Harvesting in these areas therefore presents an opportunity for restructuring these woodlands, potentially securing a range of benefits in addition to contributing to future timber resources. Improving the contribution of plantation woodlands to landscape character is an important objective, particularly in areas of high scenic value such as the Knapdale National Scenic Area. Restructuring also creates the opportunity to develop and enhance networks of important native woodland, mosaic and open ground habitats, even in areas that will remain important for timber production. Improving the interface between softwood forests and open moorland environments by retaining and enhancing open ground and transition habitats, naturalistic planting and use of native species will make an important contribution to management for key species such as black grouse and to landscape quality. There are, however, many examples of fine woodland landscapes in those older softwood forests in Cowal, around Benmore and Glenbranter (now in the LLTNP), where longer rotations have allowed non-native conifers to develop into very large trees managed as continuous cover for habitat and landscape benefits in addition to timber production. These could serve as a useful model for how to manage the younger plantations where conditions allow.
- 3.37 Expansion of native woodland cover in this zone could similarly focus on developing connections between existing strongholds, enhancing and expanding remnant woodlands in river corridors and along lochsides to create a more coherent resource.
- 3.38 These developments will also be paralleled by enhancements to the access and recreation potential of the woodland resource, particularly around larger settlements, important tourist sites and areas designated for their landscape or natural heritage value. Reappraisal of the woodland resource – particularly the National Forest Estate – has the potential to create opportunities for greater community involvement in the ownership and management of woodland. Sites that have lower value for large-scale commercial timber could, conversely, convey major benefits to local people by through the creation of community woodland, developing wood-based business and, where opportunities arise and planning considerations allow the creation of Woodland Crofts.

- 3.39 Mid-Argyll and South Lorn also has perhaps the greatest potential for expansion of woodland for timber production. While Sitka spruce is likely to remain the most important commercial crop, expansion of the biomass and hardwood sectors may also create opportunities for economically productive forests of more diverse species as well as native woodland.
- 3.40 Despite the positive benefits flowing from harvesting and restructuring, the increased volume of timber will inevitably have an impact on the already-fragile transport network. Efforts to enhance infrastructure, sustainable transport schemes and, where opportunities arise, local processing capacity will be important in ensuring that wider impacts are avoided.
- 3.41 Positive management and expansion of the existing native woodland resource may provide additional benefits to biodiversity, environmental quality and access as well as limited production of quality hardwoods. The role of the Atlantic oakwoods in the area's cultural heritage should be promoted as a major asset to encourage further use and appreciation of the resource – notably around Taynuilt and the Bonawe Ironworks and in the Glen Nant NNR.
- 3.42 Given the high proportion of existing woodland cover, any proposed expansion in this zone will be required to have regard to the protection and enhancement of high quality open ground habitats and associated species – not least within the Glen Fyne portion of the Glen Etive & Glen Fyne SPA.
- 3.43 As patterns of agriculture and land management continue to change within the zone, there may be increased potential to develop small farm woodlands for small-scale biomass production and to provide shelter for buildings, crops and livestock. Land that is underused and has issues with bracken encroachment due to lower grazing pressure could benefit from the establishment of small-scale short-rotation planting for biomass and enhancement of native woodland resources. Providing additional opportunities for local business development may assist in improving the viability of rural communities, helping to reverse population decline and offering alternatives to traditional seasonal employment. There is also significant potential for these sites to contribute to the development of habitat networks to aid adaptation to climate change.

## **KINTYRE**

- 3.44 Although heavily afforested, Kintyre currently lacks connectivity between woodland areas, an issue which is becoming increasingly apparent as a significant proportion of the resource reaches maturity. The dense, even-aged forest blocks are often difficult to access for harvesting because of isolation from the transport network, unfavourable topography and sensitivity to erosion. These factors combine to adversely affect the economic viability of certain areas of Kintyre's woodland resource. However, continuing development of strategic timber haul routes and marine transport links offer an important opportunity to improve returns, reduce pressure on the fragile rural road network and boost the overall sustainability of the product. Reinforcing and expanding sustainable transport options must be a priority, particularly in light of the volume of timber likely to be harvested and increasing fuel prices if continued/expanded commercial woodlands are to be economic.

- 3.45 The coming years of harvesting offer a major opportunity for forest managers to enhance the landscapes of Kintyre. Sensitive and creative restructuring of conifer woodlands will significantly improve landscape quality, bolster the native woodland resource, enable the development of habitat networks and assist in the application of lower impact silviculture on suitable sites. Where further rotations of softwoods may not be viable, or where conservation priorities are paramount, a shift in emphasis towards landscape quality, habitat creation and management represents an important contribution to the biodiversity and scenic values of this area. There is also an opportunity to work with land managers to achieve an expansion of farm woodlands and habitat networks. Improving public access to the forest, particularly in proximity to centres of population and tourist destinations, may expand the contribution of the sector to visitor interest and infrastructure in Kintyre, including contributing to initiatives such as the Kintyre Way. However, the majority of the woodland resource is unlikely to be extensively used for recreation – given its relative remoteness and low population density – therefore landscape and natural heritage values will be prioritised.
- 3.46 Developing a high quality native woodland resource in Kintyre is particularly significant, as it currently has relatively sparse coverage concentrated in the littoral zone and in riparian corridors. Overcoming fragmentation and developing more extensive woodlands in the larger glens could make a significant contribution to improving the habitat values of the area. Where new wind farm development is proposed (particularly if woodland removal is required), native woodland creation and habitat enhancement programmes could be delivered, at least in part, through developer contributions. Similarly, where important sites for timber production are likely to be lost or reduced in size in this way, appropriate provision for replanting should be secured to safeguard future timber resources.
- 3.47 The uplands of Kintyre already make a significant contribution to renewable energy generation through three operational wind farms - with several more at the planning or pre-planning stage. The outcome of the recent move by Forestry Commission Scotland to attract more wind energy development to the National Forest Estate may result in further applications in the zone, where cumulative impacts can be avoided. While this may be an important means of diversifying, particularly in areas with poor yields from timber, development will be tempered by the need to consider natural heritage, landscape and historic environment issues. Given the importance of maintaining and expanding total woodland cover, and in the light of the Control of Woodland Removal Policy, any loss of woodland will require compensatory planting elsewhere.

## **BUTE AND COWAL**

### **Cowal**

- 3.48 Like much of Argyll and Bute the uplands of the Cowal Peninsula are heavily afforested, with the majority of planting dating from the 1960s-1980s. This has resulted in a somewhat skewed age structure and some woodlands that do not maximize their potential contribution to landscape character, biodiversity or cultural heritage. Opportunities for restructuring these woodlands, creating habitat networks and improving the interface habitats between woodland and open ground will secure important biodiversity and landscape benefits.



- 3.49 As an area popular with tourists, walkers and day-trippers, securing high quality public access to forest land is a key objective for the zone – a fact long recognised by the sector in the area. Restructuring will also afford opportunities to enhance provision for all abilities of users and to facilitate enjoyment of the woodlands themselves and of open and hill ground beyond, and to protect and enhance the biodiversity values of these areas.
- 3.50 The high scenic value of the area – particularly in the Kyles of Bute National Scenic Area – is a key asset and, while large-scale planting may not be appropriate, positive management of existing woodlands and sensitive expansion can enhance these values. There will however be a number of opportunities for smaller-scale new woodland particularly those which deliver environmental objectives or which sensibly join-up or link to existing woodland areas and which bring a variety of benefits in so doing
- 3.51 Considerable progress in timber transport has been made in Cowal, particularly relating to the expansion of marine transport and the development of the in-forest haul road network. As the area has some of the most productive softwood forests in Argyll and Bute, reinforcing and adding to this capacity will be fundamental in maximising returns from timber crops.
- 3.52 Considerable interest in community forestry already exists in Cowal, illustrated by the success of the Kilfinan Community Forest established in 2008 through the National Forest Land Scheme. The broad focus of the project – encompassing economic development, woodfuel, local food production, education and training in woodland management and carbon reduction – could provide a positive model for similar initiatives across the area.
- 3.53 Any proposals for woodland expansion in the Cowal area should be coordinated with the Woodland and Forestry Framework for the Loch Lomond and Trossachs National Park, which is currently under review.

## **Bute**

- 3.54 The pattern of woodland on the Isle of Bute is rather different to that of the rest of Argyll. The more lowland agricultural character of much of the landscape, particularly of the central and southern portions of the island, has resulted in far fewer opportunities for large-scale afforestation. Instead, policy and mixed farm woodlands predominate and make a major contribution to landscape character and historic interest. Safeguarding and potentially expanding this distinctive pattern of woodland will therefore be a priority. Funding opportunities through SRDP for farm woodlands have the potential to reinforce habitat networks, provide shelter for livestock and crops and to contribute to local high quality timber or biomass production.

- 3.55 The few large forest blocks that exist, particularly those overlooking the Kyles of Bute, will benefit from restructuring as they currently have strong geometric forms and could be more effectively incorporated into the landscape. More naturalistic planting and the use of native species to create interface habitats will benefit both biodiversity and scenic values. Ensuring continued public access to the woodland resource, particularly in the estate woodlands that are popular with visitors, will enhance their contribution to the tourism value of the area.
- 3.56 The recent purchase of part of the Rhubodach Forest, overlooking the Kyles of Bute, by the Bute Community Land Company marks a different model for local people – exercising their right to buy conveyed by the Land Reform (Scotland) Act 2003.

## **THE ISLANDS**

- 3.57 Woodlands on the Argyll and Bute Islands (excluding Bute which is covered above) have an important niche role to play. The surviving semi-natural woodlands, including Atlantic oakwoods, represent important habitats on the north-western edge of their natural range. Such woodlands are often important in providing shelter for livestock and for human settlement.
- 3.58 Significant non-native woodland expansion has been limited to Mull and, to a lesser extent, Islay. The viability of such woodlands has often been poor due to the lack of any significant on-island processing capacity and the cost of transporting timber off-island to distant markets. The development of local biomass markets and the move towards greater sustainable self-sufficiency for heating on the islands may lead to a major shift in the perception of the value of such woodlands in the future.
- 3.59 In terms of expansion, there are significant differences in potential Argyll and Bute's islands. The majority of the smaller islands, such as Coll, Tiree and Lismore, have little capacity as their size, soils, climates, environmental sensitivity and accessibility issues preclude the development of woodlands on a significant scale. However, there are significant opportunities for positive management of existing woodlands and planting appropriate native species to bolster habitat values and enhance landscape quality. In crofting areas, enhancing the viability of this traditional way of life by providing means of diversification will be important – however, this must be balanced with the maintenance of traditional land management practices which contribute much to the biodiversity and cultural heritage value of these landscapes.
- 3.60 Many of the islands support important habitats, species and landscapes such as machair, coastal raised beaches and raptors which are often protected by environmental designations. The priority for these areas is therefore the expansion and linking of existing native woodland remnants. Outside the designated areas on the larger islands there may be opportunities for planting both for timber production for local use, to provide shelter for stock and to enhance the biodiversity value of farmland. However, the development of suitable on-island processing, markets and efficient marine-based transport routes would be critical to the viability of any such expansion. Similarly, species selection and landscape design of new woodlands will be critical in conserving landscape and natural heritage values and to make a positive contribution to the vital tourist industry. Although the pattern of large forest blocks on Mull would be unlikely to be replicated today, they are a key resource for local



business and are an increasingly important driver in the biomass sector. Continued development of marine timber transport will further enhance the economic potential of the island's forest resource

- 3.61 The current and potential importance of woodlands is reflected in the creation of the Argyll Islands Woodland Partnership. The additional costs involved are one of the main barriers to promoting action given that most forestry incentives under the SRDP are based on standard costs which do not always adequately compensate for these additional costs. In response – and partly as a consequence of the development of this Strategy – Forestry Commission Scotland have introduced an Island Premium to stimulate appropriate woodland creation on Argyll's islands. Available through the Rural Priorities element of the SRDP, an additional 10% will be added to grant support for woodland creation in the Argyll Islands Native Woodland Partnership Area<sup>14</sup>.
- 3.62 There are also opportunities to expand community involvement in land ownership and management, biodiversity enhancement, recreation, woodfuel and environmental education projects, building on good practice established by enterprises on Mull.

## **HELENSBURGH, GARELOCH AND THE ROSNEATH PENINSULA**

- 3.63 This comparatively small zone, sandwiched between the sea and the Loch Lomond and Trossachs National Park, presents a number of opportunities for positive woodland management. Although there is potential for expansion, the presence of an extensive band of settlement running from Helensburgh to Garelochhead would require sensitive planning and handling of amenity, visual and environmental issues. Proximity of woodlands to urban populations means that access and recreation is a fundamental issue – and a major opportunity for community engagement. Initiatives such as those involved in the management of the Duchess Woods LNR in Helensburgh and the Kilmahew Woodlands at Cardross are key mechanisms for promoting interest and buy-in to woodlands. Similarly, active management and enhancement of existing farm and riparian woodlands will be important for the development of habitat networks linking the upland areas with the coastline and connecting isolated stands of trees.
- 3.64 Funding opportunities through the SRDP and the FCS 'Woodland in and Around Towns' (WIAT) programme may be used to enhance the recreation, health and social inclusion benefits of woodland areas that are currently under-managed or neglected. It will be important to work with the Ministry of Defence who are major land owners in this area.

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<sup>14</sup> Comprising Coll, Gigha, Iona, Islay, Jura, Mull and Tiree

## **THEMATIC CHAPTERS**

*The following thematic chapters – structured according to the Scottish Forestry Strategy’s key themes – explore the current and emerging issues facing Argyll and Bute and set out the opportunities for woodland and forestry to play a role in addressing them.*

*While the themes are separate for emphasis and accessibility there is significant interaction between each – illustrated by the cross-cutting nature of many Strategic Priorities. These chapters and the following Action Plan should therefore be read as a whole to ensure that proposals for woodland creation and management make the strongest possible contribution to Argyll and Bute’s economy, environment and society.*



## 4. CLIMATE CHANGE

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*Climate change is one of the most serious threats facing the world today. It also creates great uncertainty and future generations will need flexibility in terms of the type, extent and management of woodlands. We need to facilitate ecological and management adaptation to provide those future options. **Scottish Forestry Strategy, 2006***

- 4.1 The need to adapt the forestry sector as a whole to the challenges and opportunities of the climate change agenda is a national priority. Because woodland is essentially a long term investment, it is imperative that managers can be sure their decisions today do not compromise the viability of the sector or the health of the environment in decades to come. However, this is reliant on the accuracy and availability of appropriate climate data and predictions for the future.
- 4.2 In terms of direct impacts, work by Forest Research (2008) suggests that, according to current climate scenarios, the forestry sector is likely to be faced with warmer wetter winters, warmer drier summers, increases in storminess and rising sea levels, resulting in higher rates of windthrow, landslides and flooding. Everyone involved with woodland and forestry must therefore be prepared to adapt to emergent threats, such as an increased prevalence of pests and disease, altering species and provenance selection where appropriate and planning forests to take account of increased wind speeds, higher temperatures and changing rainfall patterns.
- 4.3 However, climate change may also result in some positive physical effects for forestry in Scotland, potentially increasing the length of the growing season and facilitating woodland expansion into more marginal areas. There are also likely to be impacts on existing native woodland species, and movement of plant and animal species in response to the changed climate.
- 4.4 Strategies to mitigate greenhouse gas emissions, such as increasing woodland cover on non-peat soils to sequester carbon and developing the biomass sector, create significant opportunities for positive management of the woodland resource. As around 87% of energy consumption in homes– much of which comes from carbon intensive sources – is for space and water heating<sup>15</sup>, the potential of woodfuel installations to fulfil at least some of this demand is significant.
- 4.5 Although research suggests that carbon may be sequestered most efficiently by fast-growing non-native conifers, the sector must ensure that it does not replace one driver of monoculture woodland with another. Maintaining and expanding the native woodland resource will also be important in generating longer-lived carbon stores and in vital work to enhance ecosystem's resilience to the now-unavoidable effects of climate change.

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<sup>15</sup> Scottish Government Renewable Heat Group 2008 'Scotland's Renewable Heat Strategy: Recommendations to Scottish Ministers'

- 4.6 Woodland and forests also have a potential role to play in adapting to the effects of climate change. Woodland expansion in the upper parts of river catchments, and on river floodplains may assist in natural attenuation schemes, slowing flow rates and limiting the erosive power of floodwaters. In Argyll and Bute, where many areas are prone to landslips, strategically placed woodland could contribute by stabilising thin soils and creating buffers against minor debris flows.
- 4.7 The forestry sector in Argyll and Bute can play a significant role in meeting the Scottish targets for mitigation against climate change. Chapter 3 of this strategy has demonstrated that Argyll and Bute has potential to make an important contribution to the national target for woodland expansion, further reinforcing the area's role in storing carbon. The wider use of timber in construction can both reduce the requirement for energy intensive materials such as steel or concrete, and provide a means of long term carbon storage.
- 4.8 The voluntary Woodland Carbon Code offers assurances to investors and communities alike that woodland creation and management programmes with a carbon sequestration element will meet national standards, be managed in accordance with a coherent long-term plan and use a standardised method for calculating the volume of carbon sequestered. Although this programme is currently at pilot stage, it will be rolled out across the UK in 2011. Afforestation schemes with a strong carbon sequestration element will therefore be strongly encouraged to sign up to the Code.
- 4.9 The size of Argyll and Bute's woodland resource means there is significant potential to support the use of woodfuel in power and heat generation as a locally-sourced energy supply with excellent renewable credentials. It also has the capacity to significantly increase the amount of timber used within Argyll and Bute, reducing the need for longer distance timber transport to destinations outside the area. The production and use of biomass for heating or combined heat and power (CHP) systems, particularly at district or community level, has significant potential to help de-carbonise the economy and reduce Argyll and Bute's current reliance on fossil fuel. Argyll and Bute's large timber supply, its relative remoteness from other timber markets and the high dependence on imported fossil fuels all suggest there is significant scope to develop biomass as a local, low carbon energy source. Much can be learned from pioneering use of biomass across Argyll and Bute. Examples include a district heating scheme for housing at Glenshellach in Oban, an innovative woodfuel supply company, Crannich, based on Mull, and a community-based woodfuel supply set-up via Our Power at Cairndow. A number of biomass schemes have been granted planning consent across Argyll and Bute, and larger facilities, such as that powering the UPM Caledonian Paper Mill in Irvine, have begun to import biomass by sea from Argyll<sup>16</sup>.
- 4.10 The viability of developing a greater number of CHP and biomass heating systems depends to a large extent on the viability of supply chains – both in terms of creating local demand for biomass and providing consumers with confidence that future supply is sustainable and reliable. While, once established, the market will help achieve this balance, in the short-term some additional support for biomass development and local

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<sup>16</sup> TTR Ltd. 2010 *op cit*.

networking within Argyll and Bute to encourage greater use of biomass would be particularly beneficial. The public sector can play a key role in supporting development of the market by prioritising the installation of biomass boilers in public buildings and encouraging private developers and householders to follow suit. There is significant potential to work with ALLenergy to promote uptake of support for biomass via SRDP & Scottish Biomass Heat Scheme. Argyll and Bute Council has adopted a positive planning approach to biomass developments, and will seek to ensure that the benefits of proposals are optimised, fully utilising the heat and any electricity generated.

Potential benefits to communities are discussed in **Chapter 7**, while business development opportunities are dealt with in **Chapter 6**.

- 4.11 The forestry sector as a whole, in common with many land-based industries, is a major user of fossil fuels at every stage of the process from planting to processing. Reducing the sector's reliance on such fuels is critical to maximise the contribution to climate change mitigation in line with the draft Scottish Government Land Use Strategy<sup>17</sup>. Similarly, as global oil resources are depleted, fuel price rises will accelerate – further increasing the pressure on the economics of forestry in peripheral areas. Any woodland expansion for timber production in difficult-to-reach areas should only be tempered by an acknowledgement that traditional transport options may not be available. The TimberLINK shipping service, which operates from Ardrishaig, Campbeltown, Portavadie, and Sandbank, was shown to have saved an estimated 1245 tonnes of carbon dioxide emissions in 2009/10 – equivalent to 10kg of CO<sub>2</sub> saved per tonne of timber transported<sup>18</sup>. Savings are likely to increase over road equivalents as sites in more remote areas – particularly in south Kintyre – are harvested and the volume of timber shipped from Campbeltown increases.
- 4.12 Transport impacts on communities are discussed in more detail in the **Timber** section of this strategy.

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<sup>17</sup> Scottish Government, 2010, *Getting the best from our land: A draft land use strategy for Scotland – Consultation Draft* Edinburgh: Scottish Government

<sup>18</sup> TTR 2010, *ibid*, p17

## EXAMPLE OF GOOD PRACTICE

The wider application of renewable energy from a range of sources is a key tenet of the Scottish Government's approach to mitigating climate change. While Argyll and Bute is already making a major contribution through commercial-scale wind and hydro-electric generation, the area's woodlands and forests have the potential to make a significant contribution through a range of woodfuel initiatives.

*Assisting the development of the biomass sector is a key strand of this strategy, and represents a major opportunity for forestry to contribute to the mitigation of climate change and to the alleviation of fuel poverty.*

### **Glenshellach Community Heating Scheme**

Lead Partner: Highlands and Islands Community Enterprise

#### **Summary**

This project entailed the installation of a 650kW biomass-fuelled district heating system, supplying 89 homes in Oban built and owned by the West Highland Housing Association (WHHA). Eliminating fuel poverty for tenants – widespread amongst residents in older properties in Oban – was a critical aim for WHHA in the adoption of biomass technology. The Glenshellach site was not connected to the Oban area gas network, and more traditional oil, solid fuel or electric storage heating options were judged unsuitable for the likely tenant group.

#### **Benefits**

- Providing comfortable modern homes that are affordable to run – low-cost energy (4.4p/kWh) and use of Smart Card meters to limit potential for bad debt and fuel poverty.
- Displacing use of natural gas as fuel – reducing carbon emissions both at point of combustion, as woodfuel is near carbon neutral, and through use of local supply chains (vs. long distance road haulage of gas to the Oban area satellite grid).
- High profile, award-winning<sup>19</sup> project has drawn considerable attention from both within and outside Argyll and Bute.
- Important capacity-building 'pathfinder' role – allowing subsequent initiatives to learn from partners' experience in project design, equipment specification and fuel supply issues.
- Encouraging, along with other existing woodfuel users in Argyll and Bute, the development of local supply networks.

#### **Finance**

Total costs of around £635,000: funding provided by Communities Scotland, Fresh Futures, Scottish Clean Energy Demonstration Scheme, WHHA and commercial lending.

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<sup>19</sup> 'Best Renewable Project' at the 2006 Scottish Green Energy Awards



## **STRATEGIC PRIORITIES: CLIMATE CHANGE**

- 4.13 The Strategy defines the following Strategic Priorities in relation to the Climate Change theme:
- CC1  
**Encourage the net expansion of woodland cover in Argyll and Bute with in order to further contribute to national targets for carbon sequestration.**
  - CC2  
**Support development of biomass sector as a locally available, low carbon and cost-effective source of heat and power.**
  - CC3  
**Support the use of locally produced timber building products particularly where this reduces the requirement for energy intensive materials which need to be imported into Argyll and Bute.**
  - CC4  
**Support ongoing efforts to reduce the sector's dependence on fossil fuels**
  - CC5  
**Encourage robust protection of peat soils to maintain their value as carbon stores**
  - CC6  
**Ensure that woodland and forest expansion and management takes account of the need to adapt to a changing climate.**
  - CC7  
**Support the role of woodland in contributing to climate change adaptation strategies.**
- 4.14 These Strategic Priorities are supported by a series of Priority Actions set out in Section 11.



## 5. TIMBER

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*Timber is an environmentally friendly, versatile and cost-effective building material. It is renewable and has a very small carbon footprint. Climate change and sustainability issues are likely to make these characteristics increasingly valued in coming decades. Scottish Forestry Strategy, 2006*

- 5.1 With a woodland resource comprising around 15% of Scotland's total stock of commercial conifers, Argyll and Bute's timber production capacity is of national significance. However there is a relatively low level of local economic activity, retained value or opportunities for training and employment – highlighting a major opportunity for the sector to make an expanded contribution to communities and the economy of Argyll and Bute.
- 5.2 The majority of these woodlands have been established since the 1960s and 1970s, resulting in a heavily skewed age structure across the region. A combination of climatic factors, topography, pressure from deer grazing and soil conditions mean that Sitka spruce is the most viable timber tree for the majority of Argyll and Bute. This, coupled with past regulatory and support regimes, has generated a pattern of large scale, even aged and single species-dominated blocks across the region. The consistency of quality of Sitka spruce is another one of the reasons the tree is favoured by the timber processing sector (though Forest Enterprise Scotland production forecasts suggest that there may be a small drop in overall timber quality as blocks established at sub-optimal densities reach maturity and are harvested).
- 5.3 Restructuring and restocking of existing sites offers a major opportunity to secure future quality timber resources, while conveying significant benefits to environmental quality and biodiversity. Coupled with appropriate expansion of conifer and broadleaved woodland this will provide a high quality, sustainable resource for the future. **To encourage this expansion, an additional 10% premium will be available for the creation of woodlands for timber production in the 'Preferred' areas indicated in this strategy (see Figure 7).**
- 5.4 Although the region contains a significant area of native broadleaved woodland (largely upland birch and Atlantic oakwoods) comparatively little of this resource is actively managed for timber production. There is no inherent reason why good quality broadleaves could not be grown on sheltered lower glen slopes or loch-sides where this is compatible with any natural or cultural heritage sensitivities. Many of the oak woods we have today represent a legacy from the time they were managed for charcoal and tan bark. Some good examples of quality broadleaves can be found around Inveraray, Cowal and even on the Islands where sycamore, ash and oak thrive on sheltered sites. Some sites also have capacity for growing a wider range of conifers, including larch and Scots pine, which can cater to other sections of available markets.
- 5.5 The work of groups such as Argyll Green Woodworkers illustrates what can be achieved when the resource is combined with skilled and enthusiastic craftsmen. Realistically, growing broadleaves for quality timber in Argyll and Bute is likely to continue to be a

niche activity. It is, however, important to encourage good silviculture in order to grow quality broadleaves where it is viable to do so.

- 5.6 Although Argyll and Bute is well suited to growing trees, its relative geographical isolation – particularly true of the islands and South Kintyre – is a dominant factor, making transport of timber and forest products a fundamental consideration for any forest manager (and thus fundamental to the delivery of the other benefits which well-managed woodland can deliver) and more acute than in other parts of Scotland. The Argyll Timber Transport Group is a major public/private sector partnership principally involving the forestry sector, FCS, local community representatives and Argyll and Bute Council Roads engineers that seeks to identify problems and work to rectify them in a strategic manner. To date, the Group has been remarkably successful in drawing down funds from the Strategic Timber Transport Fund to address local timber transport issues and a number of successful projects – such as the Dunoon ‘by-pass’ – have benefitted local residents and provided solutions to difficult haulage situations. However, the voluntary approach followed by the members of the Group may be unable to address some of the more fundamental issues facing the timber sector and the Roads Authority. Much of Argyll and Bute’s road network is of an age and specification unsuited to the large, heavy vehicles and volumes of traffic which modern forest operations generate. While the forestry sector sees their traffic as a normal part of Argyll and Bute’s road use profile – and are therefore entitled to expect a fit-for-purpose network – the Roads Authority have inevitably had access to limited budgets for upgrading and maintenance and are subject to a range of competing priorities, of which forestry is but one. All parties recognise that significant investment in infrastructure is required to address these challenges, and also that the issue is not limited to forestry traffic.
- 5.7 Pressure on the public road network was a major strand of community concern throughout the consultation process and timber transport is set to remain a major issue within Argyll and Bute as a large proportion of the area’s softwood forests reach maturity. Difficult decisions will have to be made regarding balancing impacts on the network and roadside communities, maximising the economic value of the resource and securing major environmental enhancements that depend on large-scale restructuring of existing softwood forests. Future expansion and/or restocking for timber, carbon sequestration or larger-scale biomass production should therefore be guided by where appropriate transport solutions can be agreed without generating significant additional impacts on communities. A collaborative and equitable solution must be found to ensure that years of investment in woodland expansion is not unreasonably constrained – and equally that the imperatives of timber harvesting do not place an undue burden on the people Argyll and Bute.
- 5.8 Innovative solutions such as the TimberLINK project, which removes approximately 8,000 one-way lorry journeys (over 780,000 road miles) per year from the areas road network, are major assets and could have an increased role in reducing impacts. However, this service currently depends on significant grant aid – of up to £1million per annum – from the Scottish Government. It has been calculated that the service, at a conservative estimate, creates up to £873,346 a year (for 2009/10) in environmental benefits – in terms of reduced impacts on the road network, communities and

environmental quality<sup>20</sup>. The availability of increasingly sophisticated tools for assessing the quality of standing timber could also provide an important means of reducing overall volumes of timber traffic.

- 5.9 The desire to add value to the forestry sector through opportunities for local processing and use within Argyll and Bute was a strong message from the consultation process. The scope for large scale processing facilities may be limited, but there is considerable potential for the promotion and development of local or niche markets.
- 5.10 Opportunities to develop woodland and forestry-based business need not rest solely with traditional players in the industry. There is significant potential for communities and interested groups to play an increasingly active role in the ownership and management of woodlands. This is discussed in greater detail in Chapters 6 and 7 of this Strategy.

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<sup>20</sup> Calculated benefit necessarily varies with the volume of timber shipped, the port used and the ability to accurately monetise benefits (e.g. impacts on tourism were not included). Upper and lower bounds are therefore provided using predicted timber volumes for 2009/10: upper, £1,158,959; lower, £534,726; TTR 2010, *op. cit.*, p 49.

Figure 9: Transport network

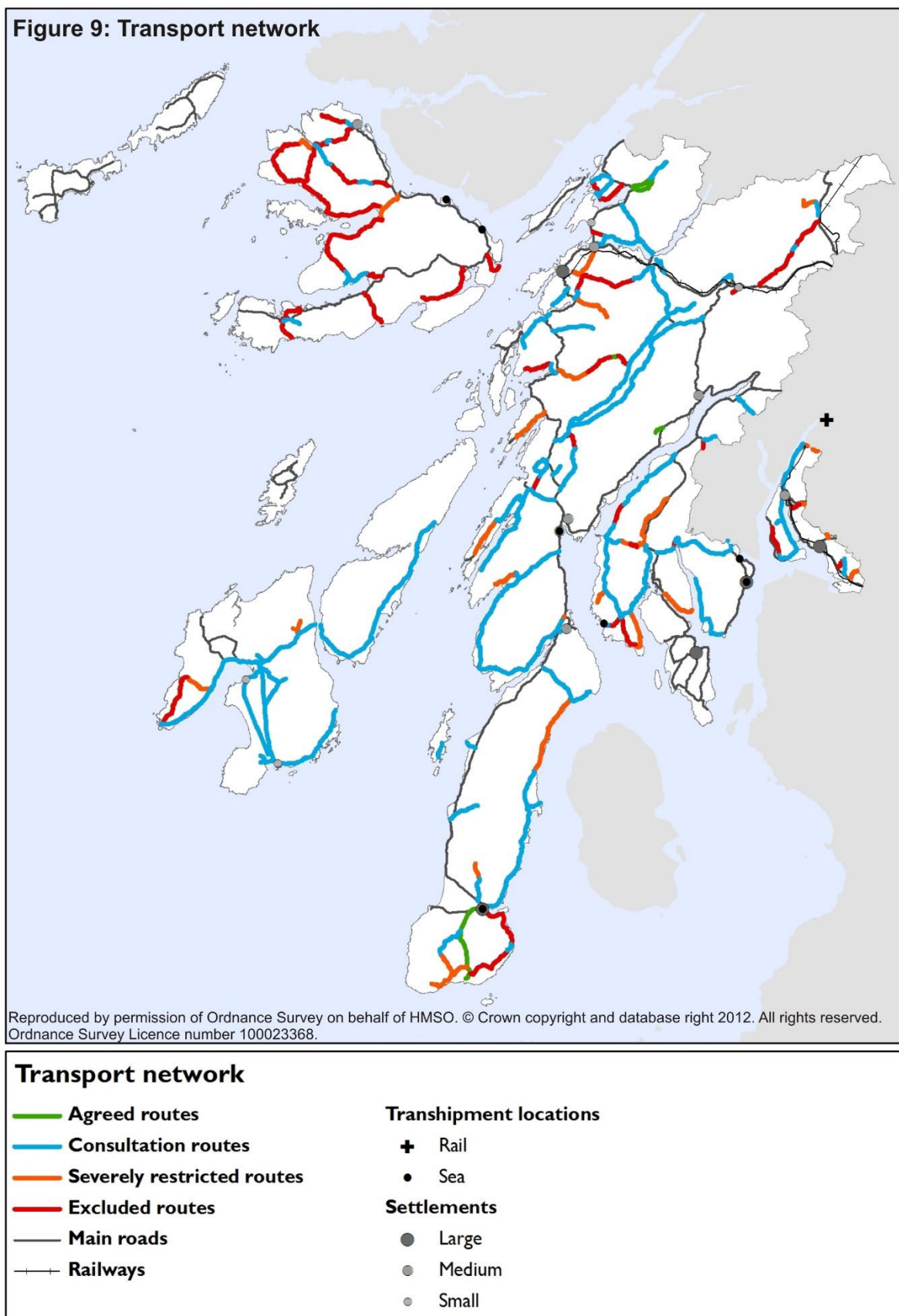


Figure 9: Transport network



## **EXAMPLE OF GOOD PRACTICE**

### ***Argyll Timber Transport Group***

Partners: Forestry Commission Scotland, Argyll and Bute Council, Scottish Woodlands, JR Dixon, UPM Tilhill, Argyll and Islands Enterprise.

#### ***Summary***

The geography of Argyll and Bute has often made accessing and transporting timber problematic. Similarly, the annual harvest is set to double from 500k tonnes per annum presently, to 1 million tonnes by 2017 – therefore efficiently transporting forest products, while reducing social and environmental impacts, is a key priority for the sector.

The Argyll Timber Transport Group is a public/private partnership that encourages collaborative working between the forest industry and the local authority. Its aim is to reduce the amount of timber transport on the road by:

- establishing a Strategic Timber Transport Network;
- establishing the potential for use of the rail network for timber transport in Argyll and Bute; and
- exploring and promoting the potential for increased use of sea transport.

*Maximising the local benefit – and reducing local impacts – are a key aspect of this strategy. Increasing the efficiency of transport will be fundamental in increasing the value of timber and developing local supply chains for other forest products, particularly biomass.*

#### ***Benefits***

- exploring the possibilities for extending the forest road network;
- researching and developing the potential of acoustic tools for in-forest timber grading, enabling targeted harvesting of suitable trees – reducing transport loads;
- high-profile success of initiatives such as the ‘Dunoon by-pass’ forest road and Glenralloch ‘Tarbert by-pass’ road upgrades.

#### ***Finance***

£2.5 million funding package: seed funding from partners, matched by 30% contribution from the European Regional Development Fund and Highlands and Islands Enterprise Special Transitional Programme.

## **STRATEGIC PRIORITIES: TIMBER**

5.11 The Strategy defines the following Strategic Priorities in relation to the Timber theme:

- T1      Encourage the net expansion of woodland cover in Argyll and Bute with in order to further contribute to national targets for woodland cover.**
- T2      Ensure woodland expansion/restocking for timber production occurs in areas where appropriate timber transport solutions can be secured.**
- T3      Encourage greater use of locally produced timber and wood products in Argyll and Bute.**
- T4      Address the major timber transport challenges facing Argyll and Bute through continued public/private sector partnership in the forestry sector through the Timber Transport group and through delivery of the Woodland and Forestry Strategy.**

5.12 These Strategic Priorities are supported by a series of Priority Actions set out in Section 11.

## 6. BUSINESS DEVELOPMENT

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*Securing the economic viability of forestry underpins sustainable forest management and the delivery of public benefits from forestry. **Scottish Forestry Strategy, 2006***

- 6.1 The forestry sector makes a significant contribution to Argyll and Bute's economy, particularly in rural areas through 'traditional' areas such as woodland and forest management, haulage and small scale processing. Most of the trees grown for sawn timber, pulp, particle board and pallets are processed outside Argyll and Bute, a reflection both of the difficult geography of the area and the recent trend for large-scale timber processing plants situated close to the main markets. Developing this type of plant within Argyll is therefore unlikely to be appropriate under current conditions. The emphasis should therefore be on developing local and niche markets and facilities, particularly where these help deliver wider social, economic and environmental benefits. Examples include development of the biomass sector, support for quality timber production and processing and the further promotion of woodland-based tourism and recreation. These kinds of initiatives would help reduce dependence on outside markets and fragile transport infrastructure.
- 6.2 Tourism and recreation-related development on forest land has been extremely successful in diversifying income streams in other areas of Scotland, such as mountain biking on the '7-stanes' circuit in South Scotland or in Perthshire's 'Big Tree Country' initiative, and has significant potential to do the same in Argyll and Bute given the range of tree, woodland and forest-related natural and cultural assets. When viewed in parallel with other high quality assets of the region, the expansion of the outdoor recreation market and potentially improved summer climate in the longer term, such developments present an attractive package for 'green tourism' development. However, any developments need to be built around a demand for services. Building on the successes of existing thematic projects such as the Mull Sea Eagle Watch and Argyll's major tourist attractions, such as Crarae's woodland gardens, may be an important opportunity to attract greater footfall and add value.
- 6.3 The direct and indirect income from tourism generated by woodlands is vital to Argyll and Bute's economy. Until now, the development of woodland-related resources has been undertaken in an ad hoc manner. Although this has been relatively successful and much good work carried out, it may be that a greater degree of collaboration between key players and the Argyll and Bute tourism sector to develop the 'product' in a strategic way would help achieve critical mass. Projects such as the *Glorious Gardens of Argyll* demonstrate the potential benefits of a combined approach to promotion and marketing and could act as the basis for a collaborative approach to marketing all of Argyll and Bute's tree, woodland and forest assets. Other opportunities include the further development of walking and cycling routes running through and linking forests and woodlands and the development of forest based field sports and woodland foods such as fungi.
- 6.4 The need for a skilled workforce in Argyll and Bute to cope with the demands of felling and restructuring as production peaks over the next 20 years is paramount. In

common with other economic sectors, recent practice has been to recruit staff from other parts of Scotland, the UK and overseas. While this has been a practical, short term approach, there are also benefits in establishing a well-trained, highly motivated, locally based and long term pool of rural workers able to carry out a range of skilled forestry jobs. This would help support the development of the sector and provide significant local economic and social benefits. Modern Apprenticeships, social enterprises and the development of rural skills can each play a role in ensuring direct economic benefits of forestry sector jobs remain amongst the population of Argyll and Bute. Argyll College, forming part of the University of the Highlands and Island, could play a key role in supporting this.

- 6.5 Agricultural diversification is a potential means of utilising woodland planting to bring social and economic benefits to land managers and users. There are also potentially wider benefits of planting on poor quality or under-utilised agricultural land, particularly when new woodlands can help link forest or habitat networks. Particular efforts are required to overcome the lack of incentive that tenant farmers experience in bringing forward new woodland proposals. At the local level, a strategic approach to assessing the quality, utilisation and potential of land could help identify opportunities where woodland creation could add value for farmers and assist in the achievement of business and community development goals.
- 6.6 Economies of scale, and the limitations of the existing timber transport network, mean that the development of large scale processing plants may be difficult or uneconomical. However, development of numerous, smaller timber processors and end-users within the region offers a more attractive and viable alternative. Increasing use of specialist technologies – such as those outlined below – offer an important opportunity to improve efficiency of local businesses and ensure that the appropriate raw materials reach the appropriate users with a minimum of wastage or impacts from transport.
- 6.7 Decentralised smaller-scale processing of timber – particularly where bulk volumes can be reduced through in-forest grading and selection of appropriate timber – may offer a significant opportunity for communities or individuals to develop viable, sustainable businesses. There is potential to tap into and develop specialist markets and supply chains, focussed on quality products (e.g. green structural timbers; cladding; high quality materials for cabinet-making and art uses) and building on the considerable expertise which already exists in Argyll and Bute. A key strategic function could be providing a forum and opportunities to bring together suppliers and end-users.
- 6.8 Good examples of smaller-scale wood-using businesses already exist in the area. The Argyll Green Woodworkers Association operates the Ormsary sawmill, producing high quality timber for building and renovation projects, providing raw materials for a network of craft and construction specialists and offering demonstrations and training in traditional woodworking skills. In Cairndow, community-based company 'Our Power' have developed a biomass wood-chipping business, supplying local enterprises with fixed-price low carbon fuels.

## EXAMPLE OF GOOD PRACTICE

### *Development of acoustic tools for in-forest timber grading*

Partners: Forestry Commission Scotland, Forest Research, InFact Ltd., Fibre-Gen

#### **Summary**

*Traditionally, trees have been felled, processed and kiln-dried before the timber is assessed by stress grading machines for structural properties. Unfortunately, with the inherent variability of wood, this can cause significant wastage as unsuitable timber is detected late in the conversion process, incurring unnecessary financial and environmental costs. Acoustic techniques allow non-destructive assessment of timber quality before a tree is felled, so it can be allocated to a particular use before processing. This improves the efficiency of the wood supply chain and minimises the social and environmental impacts of timber transport and processing. While there has been considerable research into the subject in the USA and New Zealand, Europe has so far lagged behind in the development of the technology.*

The technology hinges on the correlation between the time-of-flight of an acoustic signal through the wood fibres of a standing tree and the eventual timber quality (i.e. stiffness<sup>21</sup>/strength). Currently, commercially available hand-held diagnostic tools are available and are being widely applied in Scottish forests. This project aims to integrate this equipment with standard a European harvester head to allow machine operators to accurately assess timber quality in the field and assign particular stems to an end use prior to harvesting.

*The forests of Argyll and Bute will be a major test-bed for this initiative and stand to benefit directly from the application of the technology in the field. With such a large forest resource, the ability to maximise returns on timber – and to target marketing of products to the most appropriate market – should enable the development of robust and consistent supply chains (e.g. for quality timber, for pulp and for energy uses) and fair, stable pricing. Similarly, where stems can be effectively selected and felled for a particular market, the resultant reduction in timber volume will assist in the alleviation of transport impacts.*

*Encouraging and, where possible, facilitating such innovative partnership approaches to business development is vital in promoting smart, sustainable growth in the sector.*

#### **Benefits**

- Refocusing the industry on cutting for **quality** rather than volume.
- Could energise smaller-scale local processing for specific markets (e.g. high quality timber or energy products) and stimulate growth and investment as a result of greater certainty.
- Enables growers and processors to improve value recovered from growing stock – based on improved knowledge of wood quality at point of harvesting.
- Increases opportunities in terms of available market share (i.e. allows effective marketing of the resource without wasteful delays).
- Increases the value of stands as quality of the resource is understood prior to harvesting.
- Reduces risk for buyers, as they 'know what they're getting' from a particular stand of timber.

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<sup>21</sup> The relationship between acoustics and stiffness (Modulus of Elasticity) has been referenced many times in the scientific literature and shows a clear relationship defined by the expression, Stiffness = density x velocity<sup>2</sup>, or  $MoE = \rho V^2$

Where MoE is the modulus of elasticity (stiffness) of the tree or log ( $N\ m^{-2}$ ),  $\rho$  is the wood density ( $Kg\ m^{-3}$ ) and V is the speed of sound through the wood ( $m\ s^{-1}$ ).

- Non-destructive assessment allows forest managers to plan thinning operations more effectively, maximising benefit for producers and reducing environmental impact.
- Success of research and development phase will allow Forest Research to commercially market hardware to producers throughout the UK and Northern Europe, potentially generating significant income.
- Enhances the reputation of the forestry sector in Scotland as forward-looking and innovative.
- Has the potential to improve the value of the UK forest resource and reduce imports of timber (c.£6billion per annum).
- Could increase use of Scottish timber in the domestic architectural market as knowledge of the product – and its quality – improves.
- Will help to maximise the value of even marginal stands in Argyll and Bute.

### ***Finance***

£50k research grant from the Genomia Fund (seed funding for commercialisation of public sector research, from the European Regional Development Fund).

Remaining £100k: 'In-kind' contribution of harvester head from FCS; Forest Research; FCS Mechanical Engineering Services; private sector (Fibre-Gen, InFact Ltd).



## **STRATEGIC PRIORITIES: BUSINESS DEVELOPMENT**

- 6.9 The Strategy defines the following Strategic Priorities in relation to the Business Development theme:

BD1

**Work with timber producers and local businesses to add and retain value to the timber product within Argyll and Bute.**

BD2

**Work with land managers to expand woodland cover in agricultural areas where appropriate, thereby contributing to diversification of the rural economy.**

BD3

**Further develop woodlands' contribution to tourism and recreation in Argyll and Bute.**

BD4

**Development of a skilled workforce in Argyll and Bute, geared to future forest management and processing requirements, but also reflecting the development of biomass sector and specialist niche activities.**

BD5

**Continue to support the development of local timber and biomass markets and supply chains through positive planning measures, encouraging the specification of locally sourced materials and woodfuel.**

BD6

**Support and promote the development and use of technologies that can add value to Argyll and Bute's economy and contribute to development objectives.**

- 6.10 These Strategic Priorities are supported by a series of Priority Actions set out in Section 11.



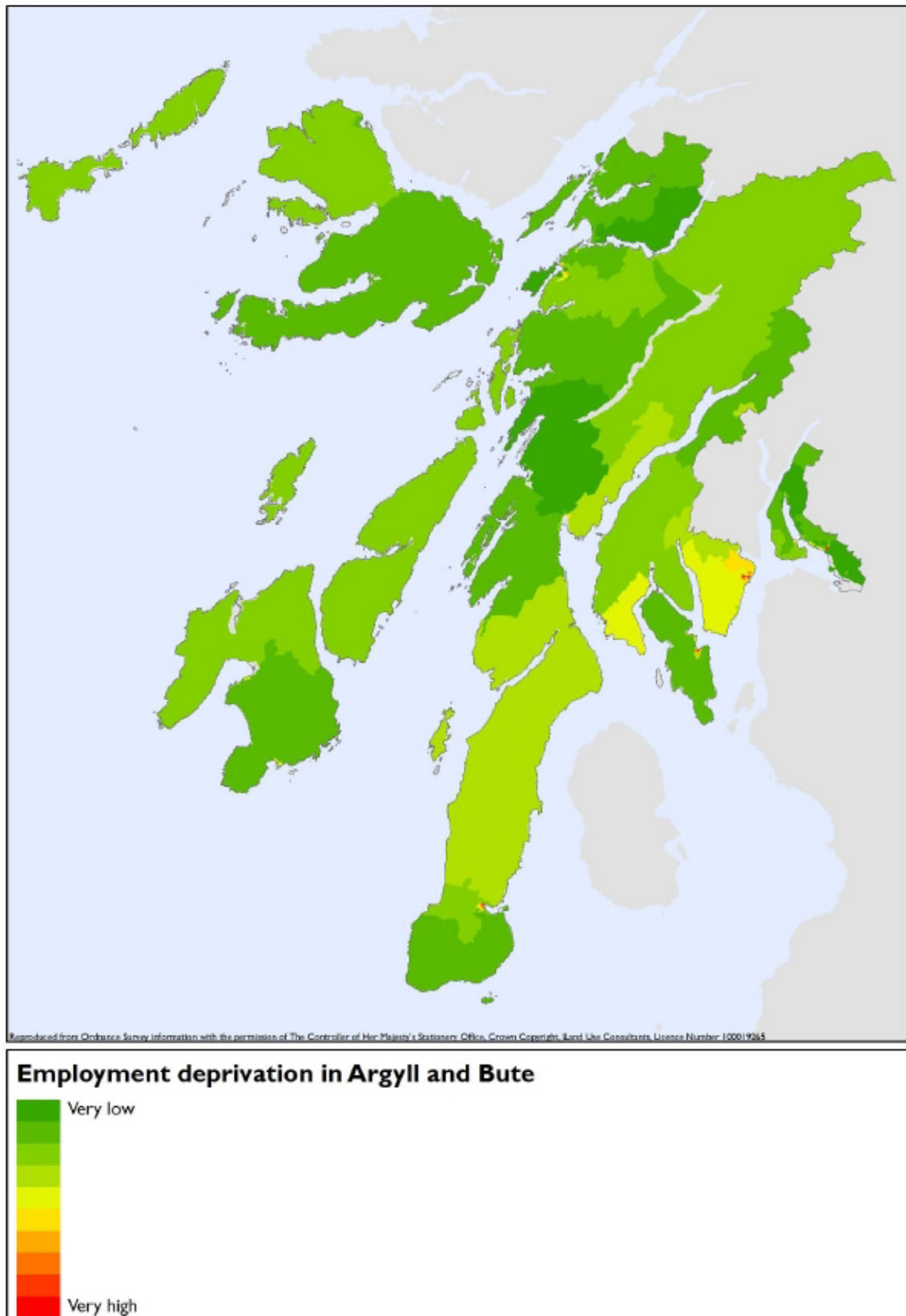
## 7. COMMUNITY DEVELOPMENT

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*Woods and associated land can provide opportunities and places for development of community and small business enterprises, and can be a vehicle to development, employability, self-esteem and transferable skills. . Scottish Forestry Strategy, 2006*

- 7.1 Conveying social and economic benefit to local communities is a central focus of the 2006 Scottish Forestry Strategy. This places considerable responsibility on the forestry sector to ensure that developments maximise the potential social and economic benefits for nearby communities, in addition to ensuring that they are not adversely impacted upon by the industry.
- 7.2 Argyll and Bute has a relatively small and widely dispersed population. The main settlements – Campbeltown, Dunoon, Helensburgh, Oban and Rothesay – each have populations identified in the Scottish Index of Multiple Deprivation (SIMD) as being amongst the 15% most deprived in Scotland, while rural communities often suffer from geographical isolation from essential services and amenities. However, strong community identities throughout the area have generated a number of groups and projects with an interest in woodlands and natural and cultural heritage.
- 7.3 Woodland and forestry have the potential to contribute a range of benefits for local people, including employment, opportunities for leisure and recreation, land for housing, and a source of cost-effective and environmentally sound energy, in addition to important quality-of-life factors. It has also been demonstrated through a range of projects, for example the North West Mull Community Woodland Company (NWMWC), that woodlands can be effectively managed by local groups. These types of project help foster local ownership and involvement and can have social benefits beyond economic and employment.
- 7.4 The education, community development and voluntary sectors in the area have an important role to play in ensuring young people fully appreciate the importance of woodlands to Argyll and Bute, and the potential for developing a woodland or forestry-related career. Engaging young people with the value of well-managed woodland through opportunities for outdoor learning (for example, through school participation in the [Forest Education Initiative](#)) can help to build a lifelong awareness and interest in environmental issues and, through appropriate further and higher education provision, help build future capacity in the sector. The 'Forest Schools' initiative, through which several teachers in Argyll and Bute have been trained, enables educators and pupils alike to benefit from close contact with the natural environment and develop key personal and social skills – while building an appreciation of woodlands and their wider value.
- 7.5 The Kilfinan Community Forest has tapped into Scottish Government funding to employ a Carbon Savings Officer to enable the installation of allotments, community composting facilities and to facilitate access and recreation improvements. In parallel, the Company aims to establish a training and skills development initiative to secure two full-time jobs and 6 traineeships in forest management and timber processing to help boost the community's economy.

- 7.6 There is significant potential to increase the level of community ownership of local woodlands. Initiatives such as the National Forest Land Scheme can help to take woodlands into community ownership (as in the case of the NWMCWC and the Kilfinan Community Forest) and allow them to increase the social and economic benefits that they can bring.
- 7.7 The diversification of uses for woodland and forestry could be important in helping to reverse the long period of decline in rural population across Argyll and Bute, and maintaining a balance in age range of rural populations. Crofts, and in particular Woodland Crofts may represent an opportunity to diversify the use of woodlands and make them a living landscape, particularly where this is linked to positive management of the woodland resource. For maximum benefits this should be carried out in compliance with the Development Plan.
- 7.8 Continuing meaningful public engagement in the forestry planning process is a key strand of the Scottish Forestry Strategy. Supporting appropriate training programmes for woodland managers and implementing best practice standards as conditions on grant support will be a key mechanism for securing an increased level of community consultation and involvement in forestry decisions that affect their area and quality of life. This will help to build on the good work the sector is already doing in engaging and working with communities to solve local issues.



**Figure 10: Employment deprivation in Argyll and Bute (SIMD 09, A&B only)**

## EXAMPLE OF GOOD PRACTICE

### North West Mull Community Woodland Company

#### *Summary*

The North West Mull Community Woodland Company is a community company with charitable status, set up to manage the 691ha Langamull and West Ardhu woodlands.

#### *Benefits*

Purchased by the community through the National Forest Land Scheme in 2006, the business and woodlands are managed to contribute to community benefits including:

- Improved access to and appreciation of forest environments.
- Creating and developing business opportunities, particularly in forestry sector. Use of woodlands as an educational resource.
- Sourcing and organising training in essential forestry skills for local people.
- Provision of affordable housing remains an aspiration.

MWMCWC has also been a key partner in a project to enable access to previously 'landlocked' timber resources in north west Mull through a Strategic Timber Transport Scheme-funded forest road project. It involved the creation of 13km of haul road, the construction of three bridges and the upgrading of 3km of public road in Glen Aros. NWMCWC will also fund internal roads within its two conifer woodlands.

This initiative was vital to safeguarding the future of the Company and it is estimated that output from the previously landlocked area may total in excess of 600,000 tonnes during the next 20 years.

#### *Funding*

Community fundraising, Big Lottery Fund, Scottish Land Fund, Highlands and Islands Enterprise, The Robertson Trust, Hugh Fraser Foundation, interest-free loan.

## STRATEGIC PRIORITIES: COMMUNITY DEVELOPMENT

- 7.9 The Strategy defines the following Strategic Priorities in relation to the Community Development theme:

CD1

**Support further community involvement in the ownership and management of woodlands, and in the creation of woodland based educational and social enterprises.**

CD2

**Support schools and tertiary education providers, and the community development and voluntary sectors, in making greater use of woodlands as a resource for inspiration, learning, enjoyment and a rewarding career.**

CD3

**Continue to support meaningful community and stakeholder engagement in woodland planning and management processes**

- 7.10 These Strategic Priorities are supported by a series of Priority Actions set out in Section 11.





## 8. ACCESS AND HEALTH

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*Enhancing access provides opportunities for countryside sports, education, lifelong learning, job opportunities and income generation. It also has a key role in supporting the tourism sector and rural development. **Scottish Forestry Strategy, 2006***

- 8.1 Outdoor recreation and exercise is increasingly recognised as a key vehicle for health improvement in Scotland. Woodland and forests are ideal venues for such activities. In addition to the advantages for physical wellbeing, access to high quality environments has been shown to have significant mental health benefits.
- 8.2 Access rights, confirmed under the Land Reform (Scotland) Act 2003, apply across all forest land, and the emerging Argyll and Bute Core Path Network makes extensive use of forest paths, tracks and existing rights of way. Both public and private sector forest managers have made considerable progress in developing access networks in suitable locations, making it easier for people to access high quality woodland environments. Restrictions, to promote safety, can be applied in some areas at times of felling. Both access takers and the industry will have responsibilities to ensure that this dual use is harmonious.
- 8.3 The majority of woodland in Argyll and Bute is remote from the population. However, those woodlands close to settlements are well used for recreational purposes, whether on a formal or informal basis. Examples include Bishop's Glen at Dunoon, Duchess Wood at Helensburgh, Dunollie woodlands on the edge of Oban, and Kilmory Woodland Park at Lochgilphead.
- 8.4 Accessible woodlands provide a great deal of scope to develop facilities that can help contribute positively to mental and physical well being of populations. Green Gyms and the Forestry Commission Active Woods Campaign are all examples of programmes which encourage greater use of woodlands – particularly audiences that may be less likely to participate in physical activity.
- 8.5 The emerging Core Path Network for Argyll and Bute has a strong emphasis on the use of forestry and forest tracks as elements of its makeup. The Forestry Commission Scotland policy generally allow for non-motorised access to afforested areas.
- 8.6 Woodland environments play an important part, both directly and indirectly, in Argyll and Bute's offering to tourists. Nationally-renowned gardens and arboreta attract significant numbers of visitors in their own right, and 'green tourism' focused on the enjoyment of natural heritage has an important woodland component. Travelling through a variety of woodland types is a quintessential part of the experience of visiting the area, with trees framing the views of many important landmarks. However, there is significant potential to expand the role of woodlands in contributing to tourism. Expanding the provision for mountain-biking in woodland areas has proven to be very successful across Scotland and may offer a means of further expanding Argyll and Bute's appeal to outdoor enthusiasts.

- 8.7 Woodlands are a key part of the area's history and provide a common thread that can link sites dating from early prehistory to the industrial age in a coherent narrative that can be widely appreciated. Enhancing access to the area's unique historic environment assets set in woodlands will be a further strand in attracting a wider range of visitors.

## **EXAMPLE OF GOOD PRACTICE**

### ***Blarbuie Woodland Project***

Partners: Reforesting Scotland, NHS Argyll and Clyde, Argyll Green Woodworkers Association, Scottish Native Woods, Lochgilphead Community Council.

#### ***Summary***

The Blarbuie Woodland Project is an innovative project developed by a partnership which includes Lochgilphead Community Council, Reforesting Scotland, Scottish Association of Mental Health, Argyll Green Woodworkers Association, and National Health Service. The group drew together funding from a wide range of sources to help create a woodland area that promoted access, and in particular understanding through interpretation, and provided a habitat for a range of flora and fauna.

#### ***Benefits***

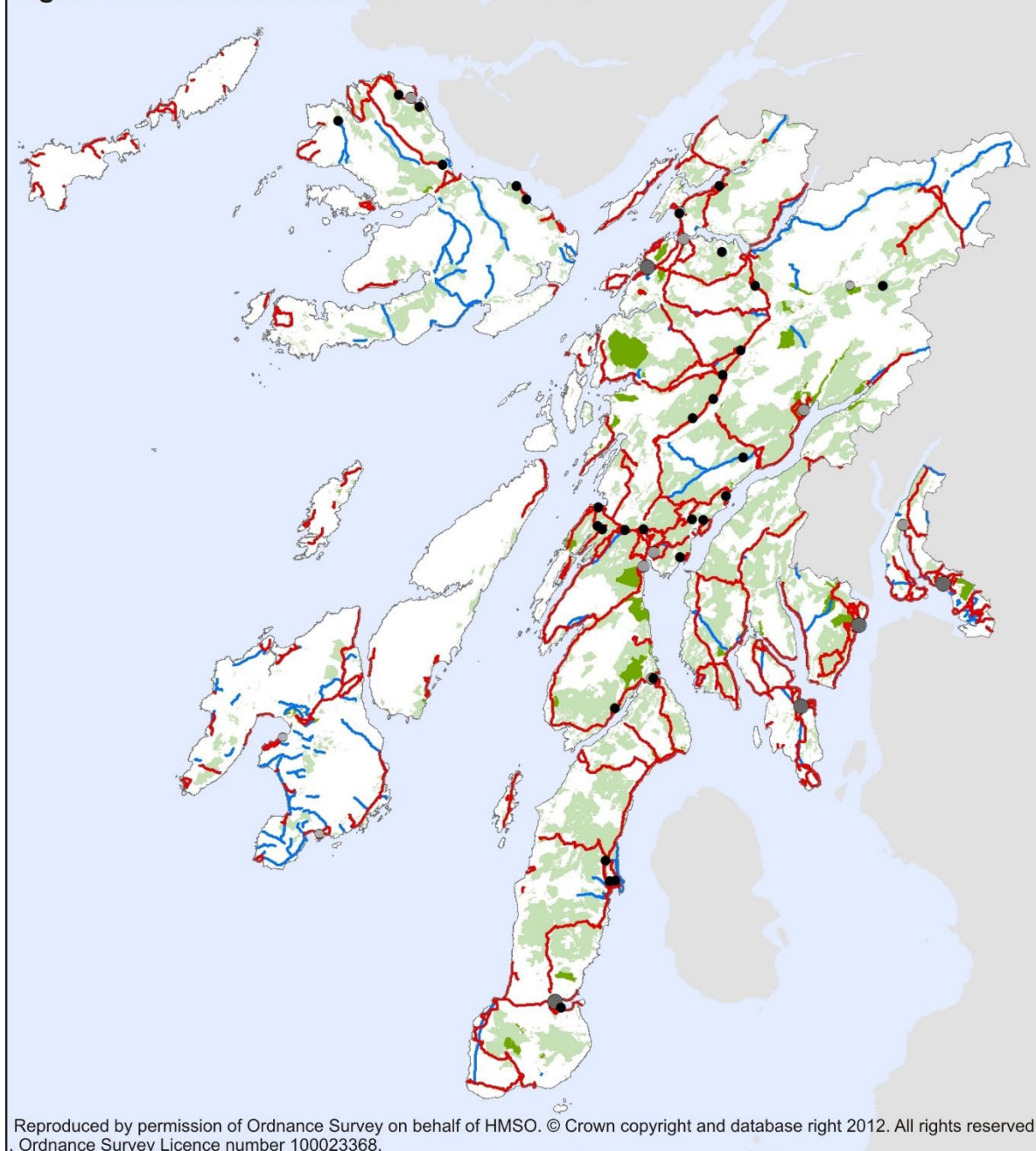
The location of the woodland, beside Argyll and Bute hospital, has encouraged patients in the hospital to use the area. The site is also used by people from all over Lochgilphead and beyond.

- Bringing into management neglected woodland (grounds of psychiatric hospital).
- Enhancing conservation and biodiversity value of woodland area – particularly for red squirrel.
- Improving access and contributing to social inclusion objectives.
- Improving environmental quality and providing health benefits to hospital patients and Lochgilphead residents.
- Garden project, based at the hospital and managed by the Scottish Association for Mental Health, provides horticultural training for patients and other unemployed people – leading to SVQ qualifications.
- Access improvement projects enable use by less mobile visitors and patients, and creates links to wider path network, improving use and appreciation of the site.

#### ***Funding***

Forestry Commission Scotland; Scottish Natural Heritage; West Highland LEADER; Robertson Trust; Allen Lane Foundation; Scottish Government; Scottish Community Fund; community fundraising.

**Figure 11: Access and recreation infrastructure**



### Access network and woodland recreation

#### Settlements

● Large

● Medium

● Small

■ Walkers Welcome Woodland

■ All woodland

● Forest Enterprise recreation facilities

— Proposed Core Paths

— Rights of Way

**Figure 11: Access and recreation infrastructure**

## **STRATEGIC PRIORITIES: ACCESS AND HEALTH**

- 8.8 The Strategy defines the following Strategic Priorities in relation to the Access and Health theme:

AH1

**Further develop the role of woodlands and forests in contributing to outdoor access and recreation.**

AH2

**Promote the health, educational social benefits that woodland and forests can bring for both local people and visitors to Argyll and Bute.**

- 8.9 These Strategic Priorities are supported by a series of Priority Actions set out in Section 11.

## 9. ENVIRONMENTAL QUALITY

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*Good environmental quality is essential for Scotland's economy, public health and biodiversity. Conserving environmental quality is a fundamental requirement of sustainable forest management. Scottish Forestry Strategy, 2006*

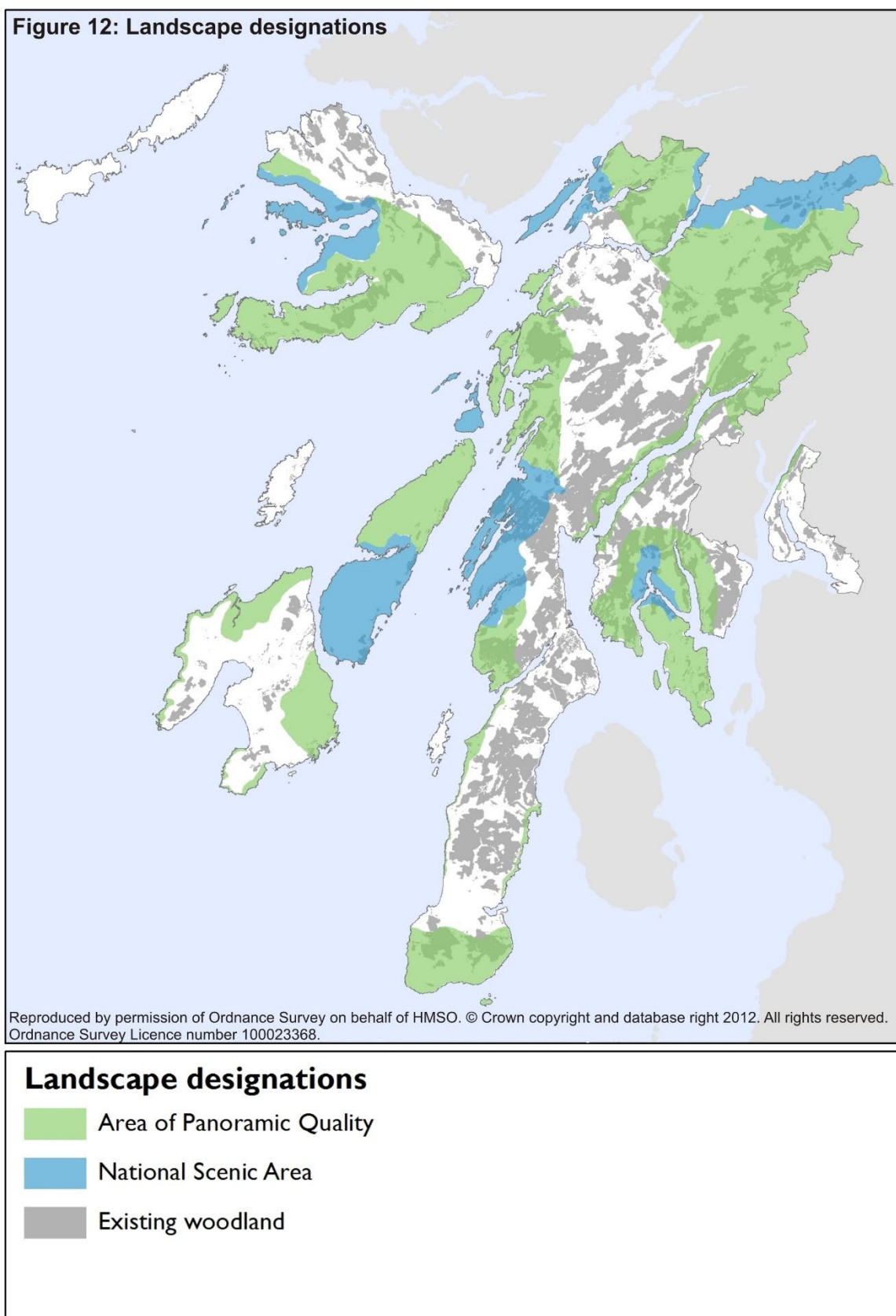
- 9.1 The landscapes, natural environment and cultural heritage of Argyll and Bute are widely acknowledged as being amongst the finest in Scotland. As the area has the highest proportional level of forest cover of any Scottish local authority (around 30% of land area), trees and woodland are a fundamental aspect of landscape character. Given that the area also contains a significant proportion of ancient woodland (33,000ha, of which 17,000ha is classed as being of semi-natural origin) these assets also make an important contribution to the setting of archaeological sites and historic monuments and to the composition of historic landscapes as well as having cultural and natural heritage value in themselves. The area also contains just over 10% of Scotland's Scheduled Monuments, dating from the Mesolithic to the early industrial period, and a very high density of undesignated archaeological sites.
- 9.2 A high standard of environmental quality is fundamental to Argyll and Bute's economy, supporting the tourist industry by attracting visitors, providing livelihoods for farmers, foresters and land managers and maintaining the quality of water required to support aquaculture and fishing. Since such a significant portion of land area is under forestry, the industry has a major role to play in terms of safeguarding and enhancing these irreplaceable assets. This responsibility will be particularly important with regard to developing forest habitat networks to assist species' adaptation, and migration in response, to the effects of climate change, as well as to the past loss and fragmentation of habitats.
- 9.3 The contribution of woodland to natural and cultural heritage quality is a priority in Argyll and Bute. Modern forest practices are designed to minimise impacts of water, soil and air resources, though it is recognised that large scale planting during the 60s, 70s and 80s has created a legacy of same species/age that have less biodiversity and landscape value than older and more diverse planned forests, and semi-natural woodlands. When managed according to current guidelines such forests will, inevitably, over time becoming much more diverse and attractive both in the landscape and to wildlife. Encouraging such management will be an important priority for Argyll and Bute.
- 9.4 The Water Framework Directive requires all member states to produce River Basin Management Plans which outline how the objective of reaching good ecological status will be achieved by 2015. The predicted impacts of climate change, with a milder wetter climate being forecast, will increase the importance of receptors and sinks for rainwater. Trees are amongst the most effective receptors of rainwater because of their ability to both consume water and help stabilise the soils in which they grow, thus slowing response times and increasing interception.
- 9.5 The ongoing process of producing River Basin Management Plans for Scotland is overseen at the national scale by the Scottish Environment Protection Agency (SEPA, and implemented at a regional scale through partnership 'Area Advisory Groups'

(AAGs). The Argyll and Clyde Area Advisory Groups have been established to co-ordinate and input to river basin planning across Argyll and Bute and to produce detailed Area Management Plans. The measures set out in the Area Management Plans include actions to reduce forestry-related impacts on watercourses and water quality.

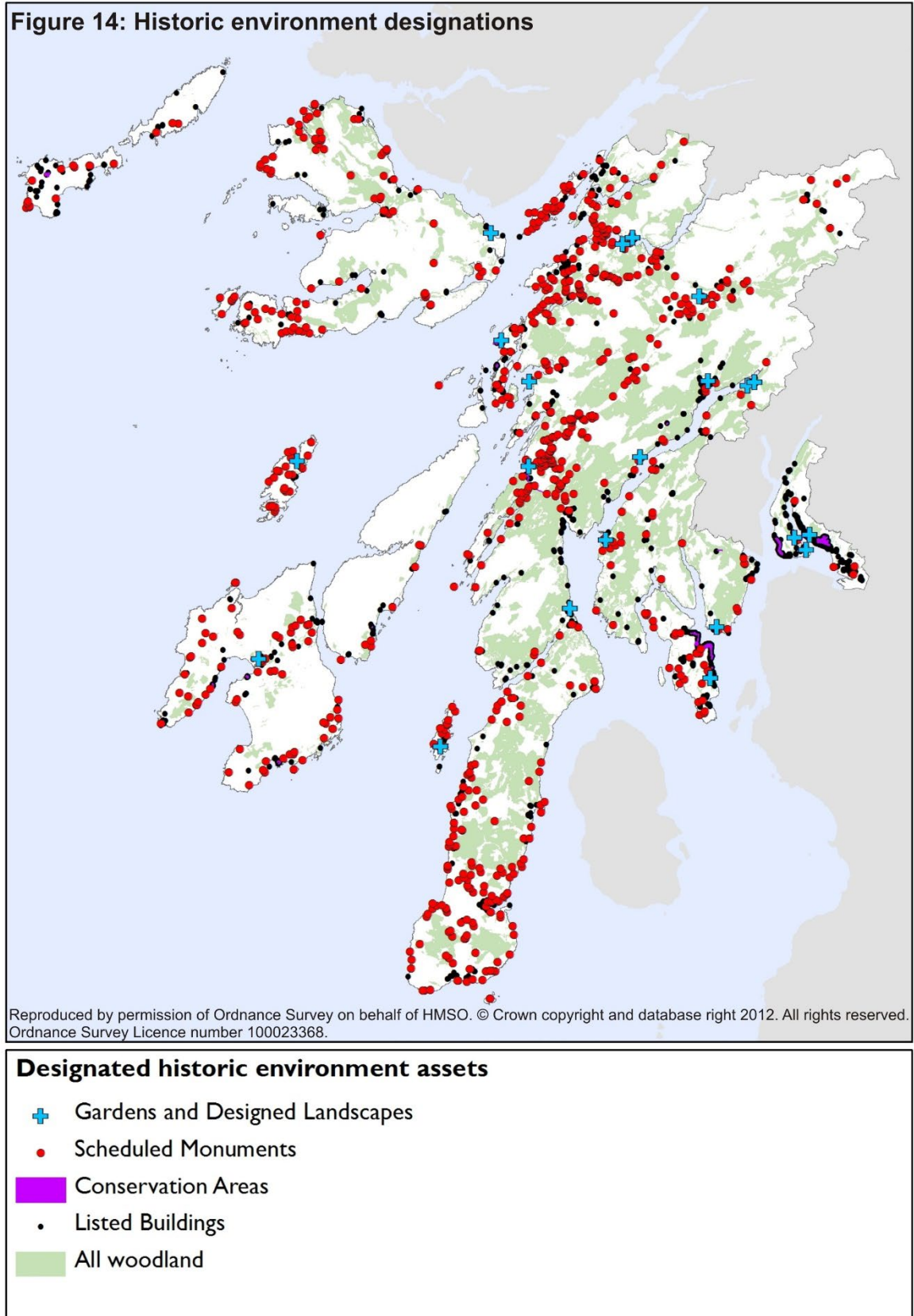
- 9.6 The AAGs includes a wide range of organisations and agencies including SEPA, Forestry Commission Scotland, Scottish Natural Heritage, Argyll District Salmon Fisheries Trust, Clyde River Foundation, Argyll and Bute Council, the National Farmers Union Scotland and the Scottish Rural Property and Business Association. Recent work has included measures to reduce the effect of culverts under forest roads creating barriers for migrating fish.
- 9.7 Further information on River Basin Management Planning can be obtained from [SEPA](#). Information on the [Argyll](#) and [Clyde](#) Advisory Groups is also available online



**Figure 12: Landscape designations**



**Figure 12: Landscape designations**



**Figure 14: Historic environment designations**

## **EXAMPLE OF GOOD PRACTICE**

### ***Dalriada Project***

Partners including: Forestry Commission Scotland, Scottish Natural Heritage, Argyll and Bute Council, Argyll and the Islands LEADER and Argyll and the Islands Enterprise, Kilmartin House Museum, Royal Commission on the Ancient and Historical Monuments of Scotland.

### ***Summary***

The project was a Landscape Partnership Scheme funded by the Heritage Lottery Fund and the above partners and administered by a small project team – the Dalriada Project Company. The project area covered 296km<sup>2</sup> of Mid Argyll that includes, North Knapdale, Kilmartin Glen as far north as Carnassarie Castle, the Crinan Canal Corridor and Kilmichael Glassary. Focussing on enhancing the area's unique natural heritage and historic environment, the project delivered 10 initiatives to promote understanding and enjoyment of these assets. These have delivered significant landscape-scale benefits which will provide a lasting legacy and an important resource for local people and visitors alike.

### ***Benefits***

#### ***Natural Heritage and Landscapes Programme***

- Enhancing biodiversity values of open ground habitats within forest environments, using traditional grazing animals – mimicking patterns found in areas of ancient wood pasture.
- Improving edge and transition habitats for key species – notably black grouse.
- 113 ha of open habitats over 5 sites restored for key LBAP habitats and species.
- Training workshops for land managers and interested groups held. Up to 20 volunteers trained.
- 6 community and family events to increase knowledge and interest in local biodiversity and the identification of species.
- 113 ha of grazing available for local graziers over 5 sites.

#### ***Built and Cultural Heritage Programme***

- Training and resourcing, with specialist partners, volunteers to record, interpret and present the area's rich and often internationally significant historic environment.
- 20 volunteers recruited and trained to take part in survey work. 3 training days organised and run for volunteers.
- 3 walk over surveys of approximately 50 ha carried out. Up to 5 archaeological digs carried out.
- Up to 5 sites consolidated and public access facilitated. Relevant findings incorporated into interpretative materials.

### ***Funding***

Sources include: Heritage Lottery Fund; Forestry Commission Scotland; Scottish Natural Heritage; British Waterways (Scotland); Argyll and Bute Council; Argyll and Islands LEADER; Argyll and the Islands Enterprise.

## STRATEGIC PRIORITIES: ENVIRONMENTAL QUALITY

- 9.8 The Strategy defines the following Strategic Priorities in relation to the Environmental Quality theme:

EQ1

**Manage forests and woodlands to conserve and enhance water and soils and contribute to river basin planning objectives of improving to, or maintaining at, good ecological status**

EQ2

**Manage woodlands to conserve and enhance Argyll and Bute's landscape and cultural heritage and people's appreciation and enjoyment of them.**

- 9.9 These Strategic Priorities are supported by a series of Priority Actions set out in Section 11.

## 10. BIODIVERSITY

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*Maintaining or enhancing biodiversity is an integral part of achieving sustainable development.*  
**Scottish Forestry Strategy, 2006**

- 10.1 Argyll and Bute's woodlands provide a rich and diverse suite of habitats for wildlife and they play a vital role in conserving nationally scarce species and are central to the character and identity of the area. Species of conservation importance which depend on woodland habitats in Argyll and Bute include one of the most diverse lower plant communities in the world, red squirrel, otter, black grouse, wood warbler and the pearl-bordered fritillary butterfly. 42 of the 109 Sites of Special Scientific Interest in the area are designated, at least in part, for their woodland (35 for their Atlantic oakwoods). Argyll and Bute has around 33,100ha of ancient and long-established woodland, comprising around 5% of total land area including around 17,400ha (3% of land area) which may be semi-natural in origin<sup>22</sup>. There are also many other undesignated areas – both wooded and open – which make a major contribution to the biodiversity and character of the area.
- 10.2 Argyll and Bute's woodlands are also recognised in National and Local Biodiversity Action Plans which highlight the contribution woodlands make to biodiversity throughout the region and identify the key drivers in helping to achieve this. A new Local Biodiversity Action Plan for Argyll and Bute has recently been published. The process identified upland oak woodland, upland mixed ashwoods, wet woodlands, lowland mixed deciduous woodlands, wood pasture and parkland, and native pinewoods together with their associated National Vegetation Classification (NVC) types as priority habitats to include in the action plan. In addition, Argyll and Bute's previously under-appreciated Atlantic hazel woods have been highlighted as a characteristic, if sparsely distributed, feature of western Scotland. These ancient woodlands are a resource of at least equal significance to the more widely recognised oak and ash components of the 'temperate rainforest.' Like their oak counterparts, they have characteristic communities of lower plants and fungi, including the white script lichen which is endemic to Scotland, and the hazel gloves fungus – a Species Action Framework and LBAP priority.
- 10.3 A significant amount of species-specific work has been implemented in Argyll and Bute which both sets the framework for continued action and raises the profile of biodiversity in general. The identification and protection of red squirrel strongholds at Inverliever, Eredine and Kilmichael forests is a key strand in the national effort to halt the decline in this iconic native species. Black grouse have also benefitted from a nationwide approach to conservation, promoting positive management of open and woodland edge habitats on which the birds depend and removing or adapting significant lengths of deer fencing to reduce collision fatalities. In 2009 the RSPB established a new three-year partnership including GDF Suez/Scottish Power, SNH and FCS covering Argyll and Stirling to implement management plans by encouraging

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<sup>22</sup> Figures based on SNH Inventory of Ancient and Long-established Woodland and Inventory of Semi-natural Ancient Woodland spatial data, clipped to the land area of Argyll and Bute (excluding the area within the Loch Lomond and Trossachs National Park) and rounded to the nearest 100ha.



funding applications through SRDP, guided by a dedicated project officer. These projects highlight the value partnership working can bring in promoting sustainable, economically important land management activities that convey significant benefits to biodiversity

- 10.4 The Council expects woodland managers to take into account the Argyll and Bute LBAP and SNH Species Action Framework in developing applications for grants, making suitable provision for the restoration and enhancement of priority habitats. Woodlands are closely integrated with other aspects of land use and management – most notably agriculture and the management of deer populations. Grazing can be a positive feature of woodland management in appropriate circumstances, such as in the maintenance of key wood pasture sites, where closely controlled cattle grazing is vital to preserve the species mix and prevent inundation by bracken. However, overgrazing by deer and/or sheep can hamper the regeneration and expansion of native woodlands and softwood forests alike. Managing the deer population through culling and exclusion by fencing conveys a range of benefits: ensuring that herds remain healthy and helping to achieve sustainable population densities; adding economic value through stalking and sales of venison; and, ensuring that key habitats – and commercial woodlands – are able to establish or regenerate without undue grazing pressure. This will require continued partnership between SNH, sporting estates, woodland managers and communities.
- 10.5 Enhanced partnership with Argyll and Bute's farmers and crofters to support appropriate management regimes to protect and enhance key assets, promote expansion of habitat networks and help to sustain the rural way of life will be critical. Finding ways around major issues such as the ageing agricultural population – which is a key driver of the continued shift from cattle to sheep farming<sup>23</sup> – will require significant joined-up thinking across the public and private sectors to reverse the trend.
- 10.6 In the past, some woodland expansion has had widespread adverse effects on what are now recognised as key biodiversity sites through encroachment on important habitats, such as ancient native woodlands, blanket bog, water bodies and river systems. Of particular significance are Plantations on Ancient Woodland Sites (PAWS) – locations where native woodlands have been converted into plantations, generally of non-native conifers. Between the 1930s and the early 1980s it is estimated that nearly 40% of the ancient semi-natural woodlands in the UK were lost in this way<sup>24</sup>. Restructuring of planted conifer woodlands affords a major opportunity for the identification of key remnant features (e.g. ancient riparian woodland surviving with forest blocks) and developing appropriate plans to secure these features and expand native planting to create viable habitat resources and links. There are major opportunities to expand native woodlands in many areas across Argyll and Bute, making a significant contribution to safeguarding fragile species and habitats and facilitating ecological adaptation to climate change. Integrated management of woodlands will help to create truly multi-benefit resources that can contribute to

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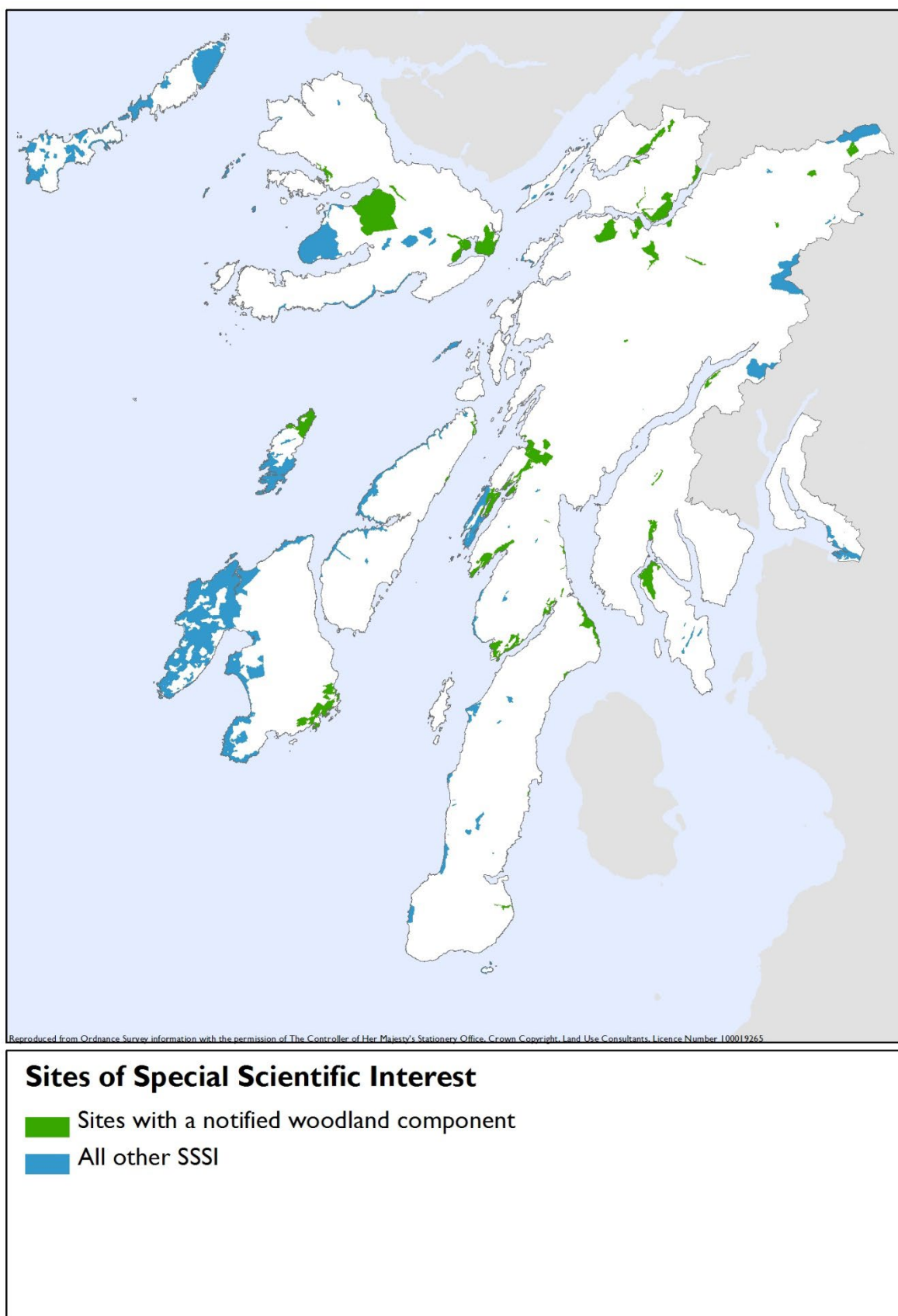
<sup>23</sup> Sheep require much less intense day-to-day management than cattle and are therefore often considered to be better-suited to the older farmer

<sup>24</sup> Thompson, R.N., Humphrey, J.W., Harmer, R. and Ferris, R. (2003) *Restoration of native woodland on ancient woodland sites*, Forestry Commission Practice Guide, Edinburgh: Forestry Commission

economic objectives, provide a stronghold for key species and enable greater public access to, and understanding of, woodland environments.

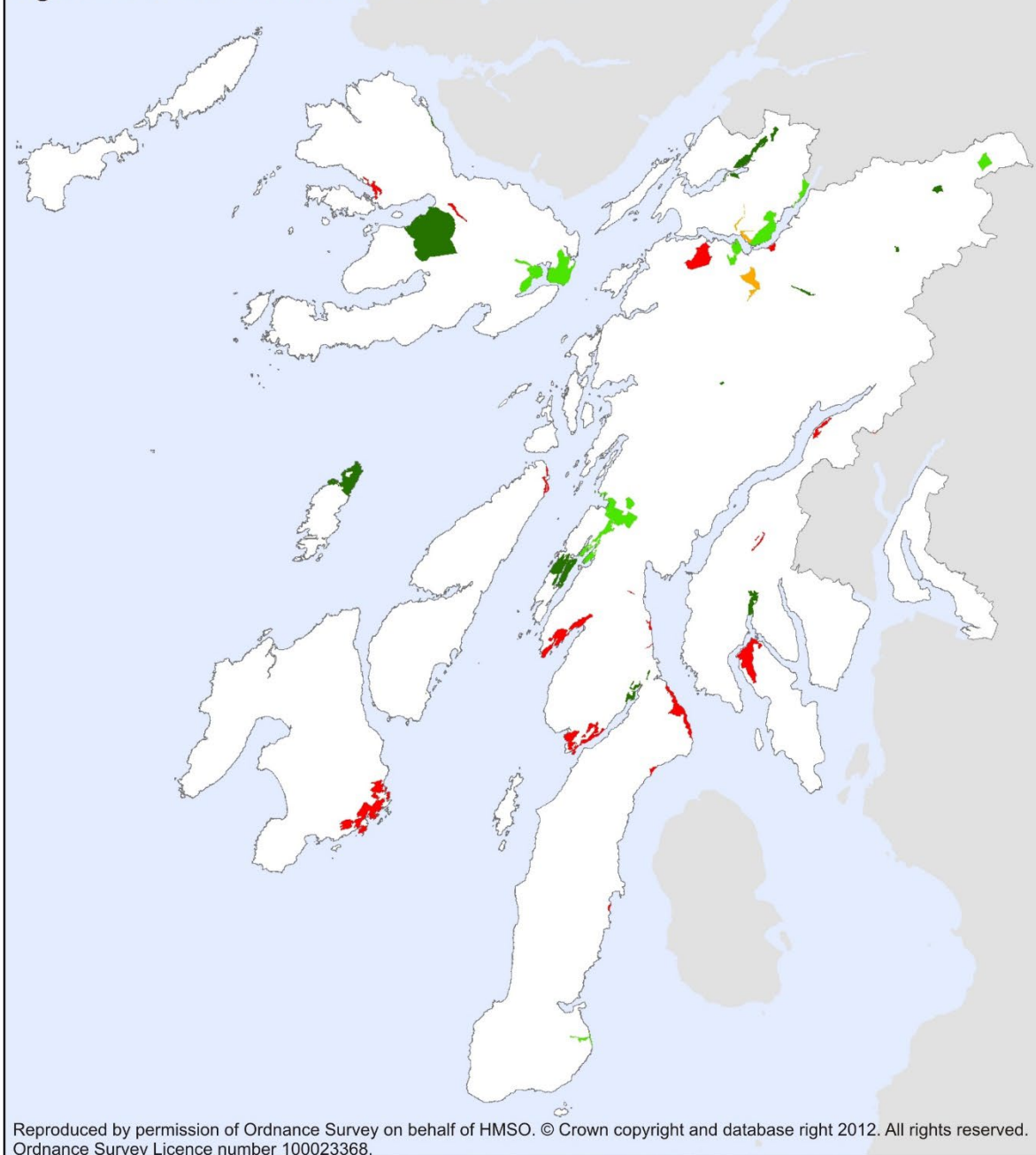
- 10.7 The UK Woodland Assurance Standard (UKWAS) requires that remnant woodlands should not be converted to plantation or non-forest land, and protection and maintenance of ancient woodland features on all sites, and prioritises gradual restoration as the preferred approach. Contemporary forestry practice must also meet the UK Forestry Standard and associated Guidelines in relation to safeguarding the natural heritage, working in partnership with other land managers and government agencies, and tackling issues such as native woodland restoration, invasive species, deer management and the protection of sensitive species and habitats. Positive management can therefore be assured through the grants process by requiring compliance with UKFS and promoting adoption of UKWAS.
- 10.8 The importance of developing networks, to help both flora and fauna expand successfully is now increasingly understood. Such networks help reverse the pattern of habitat fragmentation that has taken place over many centuries. Linking habitats helps plants and animals adapt to the changing climate, particularly where species are on the fringe of their natural range. The development of forest habitat networks is a key means of achieving connectivity and encouraging habitat networks.





**Figure 15:** Woodland-related natural heritage designations

**Figure 16: Relative condition of woodland SSSIs**

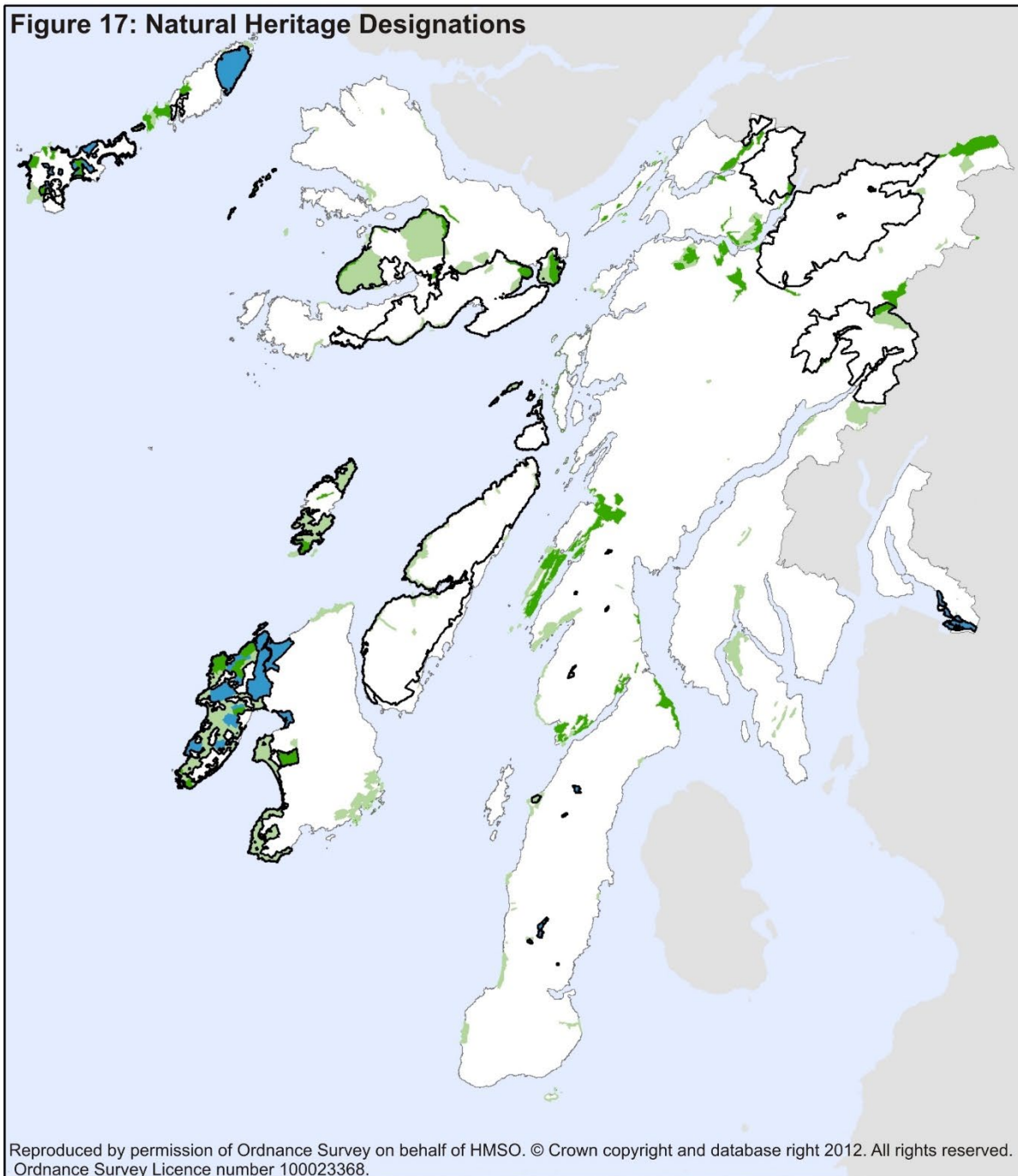


**Condition of woodland SSSIs**

- Favourable Maintained
- Unfavourable Recovering
- Unfavourable No change
- Unfavourable Declining

**Figure 16: Relative condition of woodland SSSIs**

**Figure 17: Natural Heritage Designations**



### **Natural Heritage Designations**

- Special Protection Area
- Special Area of Conservation
- Wetlands of International Importance
- Sites of Special Scientific Interest

**Figure 17: Natural Heritage Designations**

- 10.9 A large proportion of the current woodland stock in Argyll and Bute is made up of single species blocks. Whilst this type of woodland can provide habitats for some species, a wider variety of flora and fauna tend to be supported by a greater mix of tree types and open spaces within and around woodlands (many priority species are dependent on the woodland edge habitat rather than the woodland itself). The age of many of the afforested areas in Argyll and Bute mean there are opportunities to diversify the species mix through woodland restructuring.
- 10.10 In addition to the threats posed by climate change and continued habitat fragmentation, Argyll and Bute's woodlands face invasion by exotic species and a range of harmful pests and diseases. Chief amongst these is the threat from *Rhododendron ponticum* – a non-native shrub which has vigorously colonised a range of habitats since its introduction to Britain around 240 years ago. Once it invades an area, it shades out indigenous vegetation, reduces biodiversity and eventually dominates the habitat. In addition to shade, it can produce biochemicals which inhibit germination and also prevent mycorrhizal development in roots of competing species. It can also act as an immediate host for the *Phytophthora*<sup>25</sup> 'sudden oak death' fungus, which is identified as a major threat to upland oak woodland in the UKBAP.
- 10.11 In 2008, Forest Research calculated that known areas of rhododendron occupied an area of 4,654ha in Argyll and Bute, 85% of which was located in existing woodland. The cost of completely eradicating this threat was calculated as being in excess of £9.3million<sup>26</sup>, while eliminating rhododendron from designated sites was estimated at £3.2million<sup>27</sup>. Concerted action is being taken to counter this threat, including extensive control and eradication programmes and the appointment of a dedicated project officer for Argyll and Bute and the Loch Lomond and Trossachs National Park to advise land managers on rhododendron elimination and control.
- 10.12 Although woodland is undoubtedly a key aspect of Argyll and Bute's biodiversity, open ground habitats are equally significant and must not be neglected or damaged through inappropriate woodland expansion. For instance, the significance of the recently designated Glen Etive & Glen Fyne Special Protection Area (SPA) depends partly on the availability of high quality open ground habitats which support the golden eagle's preferred prey species (hares and grouse). Expansion of large-scale woodland into such areas would therefore be inappropriate. However, there may be scope to protect and enhance existing native resources in these areas, potentially adding to the value of mosaic habitats and increasing diversity.
- 10.13 Patterns of traditional agricultural practice have been central to creating these habitats over a long period of time, and continued partnership will be critical in maintaining the conservation status of these resources. Achieving a balance between incentivising woodland creation and securing a sustainable future for priority species and habitats will require close cooperation and effective planning by land managers, regulators and, where opportunities arise, community interests.

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<sup>25</sup> *Phytophthora ramorum* and *Phytophthora kernoviae* – both relatively recently recognised plant pathogens are related to *Phytophthora infestans* or potato blight

<sup>26</sup> Increasing to > £19million in 2028, and >£64million in 2058

<sup>27</sup> Edwards, C. And Taylor, S.L. (2008) *A survey and strategic appraisal of rhododendron invasion and control in woodland areas in Argyll and Bute. A contract report for Perth Conservancy, FCS*. Roslin: Forest Research

## EXAMPLE OF GOOD PRACTICE

### Mull Eagle Watch

Partners: Forestry Commission Scotland; RSPB; Scottish Natural Heritage; Strathclyde Police; Mull and Iona Community Trust

#### Summary

Part of the ongoing partnership initiative – begun in 1975 – to reintroduce the white-tailed eagle to its former natural range across Scotland, Mull Eagle Watch is a key local project but with national significance. The FCS conifer forest surrounding Loch Frisa on the Isle of Mull has been a key breeding site for a pair of white-tailed eagles for many years and has been developed into an education and outreach flagship for the wider project. It has involved careful woodland management by FCS, facilitating access to nest sites by research scientists – including the installation of CCTV at nest sites and allowing BBC film crews unique access to film the nesting birds and the wing and GPS tagging activities of RSPB and SNH staff.

Ranger-supervised public access to hides and the ability to view such majestic and elusive raptors at close range has proved a major success, generating income for the project and local good causes. Wider publicity has been secured through the RSPB online tracking of the eagles, enabling the public to engage with the project at home and observe how widely the birds travel. Similarly, coverage on the BBC's 'Springwatch' series has raised the profile of the project and enabled a far wider audience to experience eagle behaviour and understand the rationale behind – and the effort necessary for – species reintroduction.

*The forestry sector manages a resource that is fundamental to the success – and in some cases the survival – of some of the UK's most iconic species. Mull Eagle Watch, and many other projects like it, exemplifies the successes that a partnership approach to conservation and land management can secure. This strategy can therefore play an important role in highlighting the importance of such projects, and assisting the sector in bringing forward further success stories.*

#### Benefits

- Safeguarding and enhancing key breeding site and territory for white-tailed eagles.
- Exemplar of the strength of partnership working.
- Highlights the importance of 'commercial' conifers for important species. Drawing national attention to the project, and the importance of well planned and managed species reintroduction programmes.
- Providing and managing public access to otherwise 'off-limits' breeding sites.
- Enabling online tracking of named fledglings – an invaluable educational resource and an effective means of enabling people to 'buy into' the project.
- Creation of a 'White-tailed eagle information officer' post to assist in education, outreach and liaison activities.
- Generating c.£2million each year for the local economy

#### Funding

RSPB Scotland; Scottish Natural Heritage; Forestry Commission Scotland; Mull and Iona Community Trust.



## **STRATEGIC PRIORITIES: BIODIVERSITY**

- 10.14 The Strategy defines the following Strategic Priorities in relation to the Biodiversity theme:

BIO1

**Support the improvement in condition of Argyll and Bute's woodland SSSIs to at least 'recovering' status**

BIO2

**Support the management and restoration of semi-natural woodland habitats.**

BIO3

**Support the identification, safeguarding and gradual restoration of Plantations on Ancient Woodland Sites (PAWS), in line with UKFS and FCS policy**

BIO4

**Support the control of invasive species where these threaten semi-natural woodland habitats and wider woodland biodiversity**

BIO5

**Support the agricultural community in maintaining and enhancing the biodiversity value of the woodland habitats in their care**

BIO6

**Support the delivery of woodland-related Species Action Framework programme**

BIO7

**Support land managers and SNH in implementing local deer management objectives to maintain a healthy population, reduce adverse impacts on woodland habitats and mitigate the effects of fencing on sensitive species, while maximising the value of the resource**

BIO8

**Ensure that woodland expansion and management make a positive contribution to Argyll's biodiversity and people's understanding and appreciation of it.**

BIO9

**Ensure that woodland expansion and management protect and enhance internationally, nationally and locally important habitats and species.**

- 10.15 These Strategic Priorities are supported by a series of Priority Actions set out in Section 11.





# 11. ACTION PLAN

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## INTRODUCTION

10.16 This section of the Strategy sets out a series of more detailed Priority Actions under the Strategic Objectives set out for each theme. The table also identifies lead partners, timescale and priority for each action.

## 0.1

	Strategic priority		Priority action	Key partners	Timescale	Priority	SRDP Regional Priority Code
A working group comprising Argyll and Bute Council and Forestry Commission Scotland has been set up to oversee the progress of the identified actions. The working group will involve other partners as appropriate. This group will also monitor delivery of the actions.							
	<b>Climate change</b>						
CC1	Encourage the net expansion of woodland cover in Argyll and Bute with in order to further contribute to national targets for carbon sequestration	CC1.1	Ensure that forest restructuring results in no net loss of woodland	Forestry Commission Scotland and Forestry Sector	Ongoing	High	ARG23
		CC1.2	Ensure that woodland removal associated with developments such as windfarms is compensated for at a ratio of at least 1:1 in terms of area and quality of woodland	ABC, private developers, FCS	Ongoing	High	
		CC1.3	Prioritise opportunities for woodland and forest expansion, including productive woodland, native woodland, habitat networks and farm woodlands, avoiding carbon-rich peat soils	Forestry Sector, FCS, Argyll Agricultural Forum	Short – long	High	ARG23
		CC1.4	Work in partnership with the agricultural sector to encourage an integrated approach to woodland expansion on agricultural land and to address key barriers including the influence of tenure on incentives	FCS, Argyll Agricultural Forum	Short – medium	High	ARG21
CC2	Support development of biomass sector as a locally available, low carbon and cost-effective source of heat and power	CC2.1	Employ a Biomass Information Officer to raise awareness and promote the use of locally produced biomass as a source of heat and power	ABC, FCS, ALIEnergy	Ongoing	High	
		CC2.2	Public sector organisations to prioritise the take up of woodfuel boilers in public buildings – promotion and procurement	ABC, FCS, HIE other public sector organisations	Short – medium	High	

	Strategic priority		Priority action	Key partners	Time-scale	Priority	SRDP Regional Priority Code
A working group comprising Argyll and Bute Council and Forestry Commission Scotland has been set up to oversee the progress of the identified actions. The working group will involve other partners as appropriate. This group will also monitor delivery of the actions.							
		CC2.3	Promote and develop district wide biomass CHP/renewable heat schemes in public and private developments	ABC, ALIEnergy, and private developers and housing associations	Short – long	High	
		CC2.4	Explore the feasibility of retrofitting district wide biomass CHP/heating schemes within existing settlements	ABC, ALIEnergy	Medium – long	Medium	
		CC2.5	Encourage developers to include the option of biomass space and water heating in new housing. This should include provision for storage of cut logs, woodchip or wood pellets	ABC, ALIEnergy, and private developers and housing associations	Short – long	Medium	ARG22
		CC2.6	Support the development of a network of biomass heating advisers, suppliers and installers	ABC, FCS, ALIEnergy, HIE	Short – medium	Medium	ARG24
		CC2.7	Encourage householders to install biomass boilers and log burning stoves to reduce reliance on coal and other fossil fuels	ABC, FCS, ALIEnergy, HIE, communities	Short – medium	Medium	
		CC2.8	Support the supply of biomass as a source of energy making use of timber from forest thinnings, harvesting and processing as well as specific energy crops such as short and long rotation forestry.	ABC, FCS, Forestry Sector, ALIEnergy	Short – medium	High	ARG24
CC3	Support the use of locally produced timber building products	CC3.1	Promote good examples of timber construction from within Argyll and Bute and across Scotland more widely	ABC, FCS	Short – medium	Medium	ARG22

	Strategic priority		Priority action	Key partners	Timescale	Priority	SRDP Regional Priority Code
A working group comprising Argyll and Bute Council and Forestry Commission Scotland has been set up to oversee the progress of the identified actions. The working group will involve other partners as appropriate. This group will also monitor delivery of the actions.							
	particularly where this reduces the requirement for energy intensive materials which need to be imported into Argyll and Bute	CC3.2	Support the wider use of acoustic tools which allow the quality of timber to be assessed before or soon after felling, allowing local selection and use to be targeted to specific applications, including construction.	FCS, Forestry Sector	Short – medium	Medium	
CC4	Support ongoing efforts to reduce the sector's dependence on fossil fuels	CC4.1	Support the use of more efficient low ground-pressure vehicles	FCS, Forestry Sector	Short – long	Medium	ARG22
		CC4.2	Support the wider use of appropriate technology, such as acoustic tools, to improve the efficiency of harvesting and transport operation, reducing fuel consumption	FCS, Forestry Sector	Short – long	High	ARG22
CC5	Encourage robust protection of peat soils to maintain their value as carbon stores	CC5.1	Ensure woodland creation proposals avoid areas of undisturbed peat soils	FCS, ABC, Forestry Sector	Short – long	High	ARG23; ARG21
		CC5.2	Where ecologically appropriate, encourage the restoration of deep peat soils during restructuring of existing plantations (e.g. through drain blocking)	FCS, ABC, Forestry Sector	Short – long	High	ARG23
CC6	Ensure that woodland and forest expansion and management takes account of the need to adapt to a changing climate	CC6.1	Follow best practice guidance on species choice, site selection and management, and the construction and management of forest infrastructure	FCS, Forestry Sector	Short – medium	Medium	ARG21
CC7	Support the role of woodland in contributing to climate change adaptation strategies	CC7.1	Encourage the use of woodland where this helps reduce the risk of flooding (e.g. by planting at key locations in river catchments to intercept and slow run-off).	FCS, Forestry Sector, SEPA (Argyll and Clyde Advisory Area Group)	Short – long	Medium	ARG18; ARG19; ARG20

	Strategic priority		Priority action	Key partners	Timescale	Priority	SRDP Regional Priority Code
A working group comprising Argyll and Bute Council and Forestry Commission Scotland has been set up to oversee the progress of the identified actions. The working group will involve other partners as appropriate. This group will also monitor delivery of the actions.							
		CC7.2	Encourage the use of woodland where this contributes to slope stabilisation, particularly along transport corridors and adjacent to settlements.	ABC, Transport Scotland, FCS, Forestry Sector, SEPA (Argyll and Lochaber and Clyde Advisory Area Groups)	Short – long	Medium	ARG18; ARG19; ARG20
	<b>Timber</b>						
T1	Encourage the net expansion of woodland cover in Argyll and Bute with in order to further contribute to national targets for woodland cover	T1.1	Ensure that forest restructuring results in no net loss of woodland	Forestry Commission Scotland and Forestry Sector	Ongoing	High	<a href="#">Sustainable management of forests - Areas of even-aged plantation undergoing restructuring</a>
		T1.2	Prioritise opportunities for woodland and forest expansion with due regard to the future harvesting and transportation supply chains and the requirement to protect vulnerable sections of the public network.	ABC, private developers, FCS	Ongoing	High	<a href="#">Woodland creation - Productive conifer - low cost and high cost; Woodland creation - Productive broadleaf woodland; Woodland creation - Mixed conifer/broadleaved woodland</a>
		T1.3	Work to overcome key barriers to woodland expansion on the islands. Explore the potential for an islands 'premium' or 'challenge fund' to help address financial disparities.	FCS, Argyll Islands Woodland Partnership	Short – medium	Medium	

	Strategic priority		Priority action	Key partners	Timescale	Priority	SRDP Regional Priority Code
A working group comprising Argyll and Bute Council and Forestry Commission Scotland has been set up to oversee the progress of the identified actions. The working group will involve other partners as appropriate. This group will also monitor delivery of the actions.							
		T1.4	Support the development of a niche market based on cultivation of quality broadleaves	FCS, Forest Sector, Argyll Green Woodworkers, HIE	Short – medium	Medium	
		T1.5	Where conditions allow, support the wider use of Scots pine in the north and west of the area as a high quality timber tree with significant biodiversity benefits – promoting links with remnant native pinewoods	FCS, ABC, Forestry Sector	Short – long	Medium	
T2	Ensure woodland expansion / restocking for timber production occurs in areas where appropriate timber transport solutions can be secured	T2.1	Highlight importance of approved / consultation routes during grants process.	FCS, ABC, Forestry Sector	Short – long	High	
		T2.2	Support community engagement during Forest Design planning process	FCS, ABC, Forestry Sector	Short – long	High	
		T2.3	Encourage best practice in traffic / transport impact assessment for major schemes.	FCS, ABC, Forestry Sector	Short – long	Medium	
T3	Encourage greater use of locally produced timber and wood products in Argyll and Bute	T3.1	Raise awareness and promote the use of locally produced timber products	FCS, Forest Sector, HIE, A&B Sustainable Design Forum	Short – medium	Medium	
		T3.2	Support the wider use of acoustic tools which allow the quality of timber to be assessed before or soon after felling, allowing local selection and use to be targeted to specific applications, including construction.	FCS, Forestry Sector	Short – medium	Medium	

	Strategic priority		Priority action	Key partners	Timescale	Priority	SRDP Regional Priority Code
A working group comprising Argyll and Bute Council and Forestry Commission Scotland has been set up to oversee the progress of the identified actions. The working group will involve other partners as appropriate. This group will also monitor delivery of the actions.							
T4	Address the major timber transport challenges facing Argyll and Bute through continued public/private sector partnership in the forestry sector through the Timber Transport group and through delivery of the Woodland and Forestry Strategy	T4.1	Support the work of the Argyll Timber Transport Group in developing economic transport solutions which minimise impacts on communities, natural and cultural heritage and the transport infrastructure in Argyll and Bute. Finalise protocols for the inclusion of traffic management reduction or restrictions on public roads whilst maintaining and increasing the overall use of “In forest” routes, where this is identified as the most appropriate solution.	Timber Transport Group, ABC, FCS, Forestry Sector	Ongoing	High	
		T4.2	Support the operation and expansion of the Timberlink project project with increased use of portable jetties and due regard given to the impact on the network at “focal point” ports.	Timber Transport Group, ABC, FCS, Forestry Sector	Ongoing	High	
		T4.3	Support the use of locally produced timber products within Argyll, reducing the requirement for transport to external processing facilities.	FCS, Forest Sector, HIE	Short – medium	Medium	
	<b>Business Development</b>						
BD1	Work with timber producers and local businesses to add and retain value to the timber product within Argyll and Bute	BD1.1	Support the development of the biomass market (demand and supply) in Argyll and Bute (see Climate Change, above)	FCS, ALIenergy, Forestry Sector, ABC	Short to medium	High	
		BD1.2	Support the wider use of local timber in construction (see Timber, above)	FCS, Forestry Sector, HIE	Short – medium	Medium	



	Strategic priority		Priority action	Key partners	Timescale	Priority	SRDP Regional Priority Code
A working group comprising Argyll and Bute Council and Forestry Commission Scotland has been set up to oversee the progress of the identified actions. The working group will involve other partners as appropriate. This group will also monitor delivery of the actions.							
		BD1.3	Support the development of niche sector focused on hardwood production, processing and use within Argyll and Bute	FCS, Forestry Sector, Argyll Green Woodworkers, HIE	Short – medium	Medium	ARG26a
		BD1.4	Support the better collation and management of financial information to effectively monitor the GVA from woodland and forestry business in Argyll and Bute	FCS, ABC, Forestry Sector	Short – long	High	
BD2	Work with land managers to expand woodland cover in agricultural areas where appropriate, thereby contributing to diversification of the rural economy	BD2.1	Encourage the development of demonstration Working Farm Woods to encourage land managers (particularly farming tenants) to undertake woodland management and creation and better integration with the farming sector	FCS, Land managers, Forestry Sector, A&B Agricultural Forum	Short – medium	High	
		BD2.2	Address the low investment in woodland creation, particularly among tenant farmers	FCS, Land managers, Forestry Sector, A&B Agricultural Forum	Short – medium	High	
		BD2.3	Promote the development of habitat networks in lowland agricultural areas, particularly where they deliver practical as well as financial benefits for land managers	FCS, Land managers, Forestry Sector, A&B Agricultural Forum	Short – long	High	

	Strategic priority		Priority action	Key partners	Timescale	Priority	SRDP Regional Priority Code
A working group comprising Argyll and Bute Council and Forestry Commission Scotland has been set up to oversee the progress of the identified actions. The working group will involve other partners as appropriate. This group will also monitor delivery of the actions.							
BD3	Further develop woodlands' contribution to tourism and recreation in Argyll and Bute	BD3.1	Work with key tree, woodland & forest visitor attractions and the local tourism sector to brand, promote, market, and celebrate the forests of Argyll as a coherent 'package' which reflect the high quality of the environment in Argyll and Bute and the range of recreation opportunities available.	Visit Scotland, ABC, Resource Providers, Local Strategic Tourism Partnership	Short – medium	Medium	ARG30
		BD3.2	Explore the potential for specialist recreation activities and events based on Argyll and Bute's woodland resource. Examples could include nature based tourism, mountain biking, horseriding and the further development of longer distance routes (see Access and Health)	Visit Scotland, ABC, Resource Providers, Local Strategic Tourism Partnership	Short – medium	Medium	ARG30
BD4	Development of a skilled workforce in Argyll and Bute, geared to future forest management and processing requirements, but also reflecting the development of biomass sector and specialist niche activities.	BD4.1	Expand and deliver the opportunities for Modern Apprenticeships and training to help ensure a skilled local workforce is available in the forestry sector See also CD2.2	ABC, HIE, Scottish Government, Argyll College, Skills Development Scotland	Short – long	Medium	ARG29
BD5	Continue to support the development of local timber and biomass	BD5.1	Encourage developers to specify renewable heating systems using locally sourced woodfuel	ABC, ALI Energy	Short – long	Medium	

	Strategic priority		Priority action	Key partners	Timescale	Priority	SRDP Regional Priority Code
A working group comprising Argyll and Bute Council and Forestry Commission Scotland has been set up to oversee the progress of the identified actions. The working group will involve other partners as appropriate. This group will also monitor delivery of the actions.							
	markets and supply chains through positive planning measures, encouraging the specification of locally sourced materials and woodfuel.	BD5.2	Provide public sector leadership, utilising woodfuel systems in public buildings and developments as opportunities arise	ABC, FCS	Short – long	Medium	
BD6	Support and promote the development and use of technologies that can add value to Argyll and Bute's economy and contribute to development objectives	BD6	Support innovation in the forestry technology sector through in-kind support and appropriate direction of funding	FCS, Forestry Sector	Short – medium	Medium	
	<b>Community development</b>						
CD1	Support further community involvement in the ownership and management of woodlands, and in the creation of woodland based educational and social enterprises	CD1.1	Help develop local level or community based enterprises that seek either in collaboration with forest managers or via direct ownership to utilise woodlands or woodland products, particularly where these can be linked so social enterprise, training or the development of rural skills	FCS, ABC, Local Area Community Planning Partnerships, Community Groups	Short – long	Medium	ARG31; ARG31
		CD1.2	Help support local ownership and management of woodlands by communities across Argyll and Bute by identifying and enabling local interested groups	FCS, ABC, Local Area Community Planning Partnerships, Community Groups	Short – long	Medium	ARG31; ARG32

	Strategic priority		Priority action	Key partners	Timescale	Priority	SRDP Regional Priority Code
A working group comprising Argyll and Bute Council and Forestry Commission Scotland has been set up to oversee the progress of the identified actions. The working group will involve other partners as appropriate. This group will also monitor delivery of the actions.							
		CD1.3	Encourage the creation of Woodland Crofts in appropriate locations where there is evidence of demand and where this will deliver local social, economic and environmental benefits.	FCS, ABC, Local Area Community Planning Partnerships Community Groups	Short – long	Medium	ARG31; ARG32
CD2	Support schools and tertiary education providers, and the community development and voluntary sectors in making use of woodlands as a resource for inspiration, learning, enjoyment and a rewarding career	CD2.1	Encourage the further development of Forest Schools as a means of increasing community awareness and involvement in woodlands in Argyll and Bute	ABC, FCS, Local Area Community Planning Partnerships Community Groups	Short – long	Medium	
		CD2.2	Work with educational, industry and third sector stakeholders to ensure that appropriate knowledge, skills and competencies can be delivered to provide future capacity.	ABC, UHI, Argyll College, Local Area Community Planning Partnerships	Short – long	High	ARG29
CD3	Continue to support meaningful community and stakeholder engagement in woodland planning and management processes	CD3.1	Set a positive example through community engagement in Forest Design Plan process	FCS, FES	Short – long	High	
		CD3.2	Encourage woodland managers seeking grant assistance to adopt a best practice approach to community engagement	FCS, ABC	Short – long	High	
	<b>Access and Health</b>						
AH1	Further develop the role of woodlands and forests in contributing to outdoor access and recreation	AH1.1	Improve the accessibility of woodlands through partnership and suitable collaboration – particularly in woodlands linked to settlements that have socially excluded populations	ABC, Argyll Access Forum, FCS, Forestry Sector, Community Groups	Short – medium	High	ARG25

	Strategic priority		Priority action	Key partners	Timescale	Priority	SRDP Regional Priority Code
A working group comprising Argyll and Bute Council and Forestry Commission Scotland has been set up to oversee the progress of the identified actions. The working group will involve other partners as appropriate. This group will also monitor delivery of the actions.							
		AH1.2	Plan the provision of car parking to allow people to access woodlands and forests, particularly in areas remote from settlements.	ABC, Argyll Access Forum, FCS, Forestry Sector	Short – medium	Medium - low	ARG25
		AH1.3	Develop provision for horseriding, where appropriate making use of forest tracks and roads	ABC, Argyll Access Forum, FCS, Forestry Sector, Resource Providers, Visit Scotland	Short – medium	Medium - low	ARG25
		AH1.4	Develop the network of longer distance routes for walkers, cyclists and mountain bikers, particularly where they run through or connect areas of forest and woodland.	ABC, Argyll Access Forum, FCS, Forestry Sector, Resource Providers, Visit Scotland	Short – medium	Medium	ARG25
		AH1.5	Identify opportunities for the creation of woodland camp sites in key locations and linked to longer distance routes.	ABC, Argyll Access Forum, FCS, Forestry Sector, Resource Providers, Tourism Board	Short – medium	Medium - low	ARG25
		AH1.6	Explore the potential for specialist forms of woodland recreation including organised fungi foraging, geocaching, orienteering and field sports.	ABC, Argyll Access Forum, FCS, Forestry Sector, Resource Providers, Tourism Board	Short – medium	Medium - low	ARG25

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AH2	Promote the health, educational and social benefits that woodland and forests can bring for both local people and visitors to Argyll and Bute.	AH2.1	Work with communities to help to develop better local path networks in woodlands and forestry around communities as well as ensuring that existing networks are managed and promoted. This includes making information available on signage, leaflets and on the web to attract potential visitors. Where possible priority should be given to providing all abilities paths to allow less able users to enjoy woodlands.	ABC, Argyll Access Forum, FCS, Forestry Sector, Community Groups	Short – medium	High	ARG25; ARG31
		AH2.2	Develop Green Gym and Active Woods in association with communities particularly in areas that have populations with poor health	ABC, FCS, Lower Clyde Greenspace	Short – medium	Medium - low	
		AH2.3	Explore the creation of a Countryside Trust or Ranger Service based on partnership of public agencies with the aim of working with private land owners and communities across Argyll and Bute to promote and integrated approach to managed access and recreation	ABC, Argyll Access Forum, FCS,	Short – medium	Medium	
		AH2.4	Continue to promote the value of responsible access to and appreciation of natural and cultural heritage assets within woodlands, and the contribution of woodland and trees to their character and significance.	ABC, Argyll Access Forum, FCS			ARG25; ARG15d

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	Environmental quality						
EQ1	Manage forests and woodlands to conserve enhance water and soils and contribute to river basin planning objectives of improving to, or maintaining at, good ecological status	EQ1.1	Continue to work in public/private sector partnership to implement the relevant forest guidelines designed to minimise point source and diffuse pollution and impacts on the structure of watercourse (morphological impacts)	FCS, Forestry Sector, SEPA (Argyll and Lochaber Area and Clyde River Basin Advisory Group)	Short – long	Medium	ARG16
		EQ1.2	Support the objectives of River Basin Management through partnership working between the forestry sector and relevant agencies via the Argyll and Lochaber Area River Basin Advisory Group	FCS, Forestry Sector, SEPA (Argyll and Lochaber Area River Basin Advisory Group)	Short – long	Medium	ARG18
		EQ1.3	Encourage the use of woodland where this contributes to slope stabilisation, particularly along transport corridors and adjacent to settlements.	ABC, Transport Scotland, FCS, Forestry Sector, SEPA (Argyll and Lochaber Advisory Area Group)	Short – long	Medium	ARG19
EQ2	Manage woodlands to conserve and enhance Argyll and Bute's landscape and cultural heritage and people's appreciation and enjoyment of them	EQ2.1	Ensure that the special qualities of nationally and locally important landscapes are conserved and enhanced in woodland and forest management and creation	ABC, SNH, FCS, Forestry Sector	Short – long	Medium	ARG14 : ARG13e
		EQ2.2	Promote wider appreciation of the contribution of woodland and forests to the character and quality of the landscape	ABC, SNH, FCS, Forestry Sector, Visit Scotland	Short – long	Medium	ARG13b



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		EQ2.3	Ensure that woodland and forest management and creation conserve and enhance important elements of the historic environment in line with FCS Policy on Woodlands and the Historic Environment	ABC, West of Scotland Archaeology, Historic Scotland, FCS, Forestry Sector	Short – long	Medium	ARG15a
		EQ2.4	Promote wider appreciation of the contribution of woodland and heritage trees to the historic environment	ABC, West of Scotland Archaeology, Historic Scotland, FCS, Forestry Sector, Visit Scotland	Short – long	Medium	ARG14; ARG15b
		EQ2.5	Promote appropriate access to and interpretation of key historic environment sites in woodland, encouraging communities to play a stronger role in recording, interpreting and presenting their heritage	ABC, West of Scotland Archaeology, Historic Scotland, FCS, Forestry Sector, Visit Scotland	Short – long	Medium	ARG15d
		EQ2.6	Promote the role of local timber and expertise in improving the viability of the existing rural building stock, making use of high quality local forest products in restoration and conversion work	ABC, WoSAS, HS, FCS	Short – long	Medium	ARG15e
	<b>Biodiversity</b>						
BIO1	Support the improvement in condition of Argyll and Bute's woodland SSSIs	BIO1.1	Promote increased collaboration between land managers and SNH to assist in positive management and enhancement of SSSIs	FCS, SNH, Forestry Sector	Short – long	High	ARG09

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	to at least 'recovering' status	BIO1.2	Ensure that applications for woodland creation / management grants convey maximum benefits to any designated interests on site or in close proximity	ABC, FCS, SNH, Forestry Sector	Short – long	High	
BIO2	Support the management and restoration of semi-natural woodland	BIO2.1	Continue the process of diversifying and restructuring forest, prioritising key locations where there is greatest need or potential benefit particularly the restoration of former ancient native woodland	FCS, Forestry Sector	Ongoing	Medium	ARG08; ARG12
		BIO2.2	Promote the identification of priority habitat resources (e.g. woodland SSSI/SPA, SNAWI) and strategic use of Forest Habitat Network data to prioritise areas for native planting to create / reinforce connectivity (for broadleaved, pinewood and heathland in particular)	FCS, Forest Research, ABC, SNH, Forestry Sector	Short – long	High	ARG08
BIO3	Support the identification, safeguarding and gradual restoration of Plantations on Ancient Woodland Sites (PAWS), in line with UKFS and FCS policy	BIO3.1	Promote the systematic search for, and enhancement of, PAWS features in restructuring of existing plantations	FCS, ABC, Forestry Sector	Short – long	Medium	ARG08; ARG12
BIO4	Support the control of invasive species where these threaten semi-natural woodland habitats and wider woodland biodiversity	BIO4.1	Tackle the threat to semi-natural woodland habitats and other key woodland sites such as arboreta and designed woodland gardens from Phytophthora	FCS, NTS (Crarae), Private owners, SNH, Forestry Sector	Ongoing	Medium	

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		BIO4.2	Build on and promote the ongoing Rhododendron research, control and eradication work throughout Argyll and Bute	ABC, FCS, Forest Research, Forestry Sector, Private individuals	Ongoing	Medium	ARG11
		BIO4.3	Raise awareness and promote removal or tighter control of Rhododendron collections in private gardens in sensitive areas to prevent future 'escapes' – using the model of RBGE's management of their rhododendron windbreaks	ABC, SNH, Community groups	Short – long	Low	ARG11
		BIO4.4	Support monitoring of grey squirrel intrusion into Argyll and Bute at key locations (Glen Croe and Glen Ogle) – promoting positive habitat management to advantage native red squirrel through restructuring in these locations	ABC, FCS, SNH, Forestry Sector	Short – long	High	ARG11
		BIO4.5	Support the protection and enhancement of the 'red squirrel strongholds' at Inverliever, Eredine and Kilmichael forests, promoting improved habitat resilience and connectivity in the environs through grants process	FCS, SNH, ABC, Forestry Sector	Short – long	Medium	ARG08; ARG11
BIO5	Support the agricultural community in maintaining and enhancing the biodiversity value of the	BIO5.1	Support the use of positive grazing regimes to maintain stock-dependent habitats (e.g. wood pasture) and to enable desirable natural regeneration of native woodland	ABC, FCS, SNH, Argyll Agricultural Forum, land managers	Short – long	High	

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	woodland habitats in their care	BIO5.2	Promote the role of appropriate farm woodlands and habitat network expansion in enhancing biodiversity values of land inundated with bracken	Forestry Sector, FCS, SNH, Argyll Agricultural Forum, land managers	Short – long	High	
		BIO5.3	Highlight the importance of high quality open ground habitats for iconic species	Forestry Sector, FCS, SNH, Argyll Agricultural Forum, land managers	Short – long	High	
BIO6	Support the delivery of woodland-related <b>Species Action Framework</b> tasks	BIO6.1	Black grouse and Capercaillie – promoting woodland restructuring and protection/enhancement of woodland edge habitats and bilberry understorey	FCS, ABC, SNH, Forestry Sector	Short – long	High	ARG10
		BIO6.2	Red squirrel – support the delivery of the nation red squirrel strategy and Priority Action BIO4.5 and necessary measure to control invasive greys	FCS, ABC, SNH, Forestry Sector	Short – long	High	ARG10
		BIO6.3	European beaver – support ongoing reintroduction trial in Knapdale and delivery of the monitoring programme	FCS, ABC, SNH, SWT, RZSS, Forestry Sector	Dependent on trial timescale	Medium	ARG10
		BIO6.4	White-tailed eagle – continue to work with project partners to promote examples of good practice and positive benefits of eco-tourism	FCS, ABC, SNH, Forestry Sector	Short – long	High	ARG10

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		BIO6.5	Pearl-bordered fritillary – promote the maintenance and enhancement of dry, sheltered areas within and on edges of woodland required by the butterflies; promote development of habitat networks to aid dispersal from strongholds	FCS, ABC, SNH, Forestry Sector	Short – long	High	ARG10
		BIO6.5	Hazel gloves fungus – promote the importance and value of Atlantic hazelwoods, and HGF as an indicator of undisturbed, high-quality assets. Promote the protection and expansion of hazel woods at key sites	FCS, ABC, SNH, Atlantic Hazel Action Group, Forestry Sector	Short – long	High	ARG10
		BIO6.6	<i>Rhododendron ponticum</i> – continue to support ongoing research, control and eradication programmes as per BIO4.2 / 4.3	FCS, ABC, SNH, Forestry Sector	Short – long	High	ARG10
		BIO6.7	Red and roe deer – continue to support the delivery of the ‘Scotland’s Wild Deer’ action plan and WFS actions	FCS, ABC, SNH, estate managers, Forestry Sector	Short – long	High	ARG10

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BIO7	Support land managers and SNH in implementing local deer management objectives to maintain a healthy population, reduce adverse impacts on woodland habitats and mitigate the effects of fencing on sensitive species, while maximising the value of the resource	BIO7.1	Encourage sustainable deer management in line with national best practice approach, taking into account other species and habitat management objectives	FCS, ABC, SNH, estate managers, Forestry Sector	Short – long	High	
BIO8	Ensure that woodland and expansion and management make a positive contribution to Argyll's biodiversity and people's understanding and appreciation of it	BIO8.1	Improve linkages between woodlands to increase forest habitat networks. This should be undertaken with consideration for other key habitats and environmental constraints, on a site by site basis	Forestry Sector, FCS, SNH, Argyll Agricultural Forum, land managers	Short – long	High	ARG12
		BIO8.2	Expand native woodlands, particularly where this can support the development of habitat networks	Forestry Sector, FCS, SNH, Argyll Agricultural Forum, land managers	Short – long	High	ARG12
		BIO8.3	Diversify the mix of tree species and woodland edge habitats in existing plantations through woodland restructuring	FCS, Forestry Sector	Short – medium	Medium	ARG08; ARG12

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		BIO8.4	Promote wider appreciation of the contribution of woodland and forest habitats and species	ABC, SNH, Argyll and Bute Biodiversity Partnership and Forum. FCS, Forestry Sector, Visit Scotland	Short – long	Medium	ARG25
BIO9	Ensure that woodland and forest expansion and management protect and enhance internationally, nationally and locally important habitats and species.	BIO9.1	Protect and enhance all woodland Natura 2000 sites, and ensure that new woodlands and forests do not affect the integrity of other Natura 2000 sites - highlighting the need for HRA / Appropriate Assessment as necessary	FCS, Forestry Sector, SNH	Short – long	High	ARG09
		BIO9.2	Ensure that woodland and forest expansion and management contributes to the protection and enhancement all other nationally important biodiversity sites where relevant	FCS, Forestry Sector, SNH	Short – long	High	
		BIO9.3	Promote key actions to protect the status of red squirrels in Argyll and Bute in line with the Scottish Squirrel Strategy / Species Action Framework	FCS, Forestry Sector, SNH, Argyll and Bute Biodiversity Partnership and Forum	Short – long	High	ARG10
		BIO9.4	Support implementation of the Argyll and Bute local biodiversity action plan as it relates to woodland species	Argyll and Bute Biodiversity Partnership and Forum, FCS, Forestry Sector, ABC, SNH	Short – long	Medium	



## ***Annex 1 Key Partners***

### **Steering Group**

Argyll and Bute Council

Forestry Commission Scotland

### **Advisory Group**

Argyll & Bute Agricultural Forum

Argyll and Bute Council

Argyll FWAG/Perth and Argyll Forestry Forum

Argyll Timber Transport

Community Woodlands Association

Forestry Commission Scotland

UPM - Tilhill Forestry Ltd

Mull and Iona Community Trust/Argyll Islands Native Woodland Partnership

Royal Society for the Protection of Birds

Scottish Environment Protection Agency

Scottish Native Woods /Argyll Green Woodworkers Association

Scottish Natural Heritage

Scottish Woodlands Ltd

Scottish Government Rural Payments and Inspections Directorate

West of Scotland Archaeology Service

### **Funders**

Scottish Government and the European Community Argyll and the Islands LEADER 2007 – 2013 programme

Forestry Commission Scotland

Scottish Enterprise – Forest Industries Cluster

Argyll and Bute Council

