



SE/2006/155

Laid before the Scottish Parliament by the Scottish Ministers, October 2006

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Preface

Forestry is a long-term activity, but it is also relevant today to people from all walks of life. As that recognition grows, we can enhance Scotland's forests, woodlands and trees as a valued resource in which we can all take great pride.

I have been most impressed to see the breadth, depth and pace of change that has taken place since I launched the first Scottish Forestry Strategy in November 2000.

Investment in the industry has continued to gather momentum and there are now a growing number of state-of-the-art wood processing facilities. Climate change and renewable energy have become major drivers for extending our woodland cover and appreciating the real value of our forestry resource. At the same time, we have adopted a much more integrated approach to land use. Community woodlands continue to increase in popularity, and we are now beginning to realise the potential of forestry to help regenerate Scotland's industrial areas and provide health and education benefits. As a priceless part of our heritage, native woodlands have also been given the attention they deserve - and that focus will continue. Safeguarding our natural and historic environment is reaping economic as well as environmental rewards.

This revised Strategy sets out exciting opportunities to deliver increasing benefits to people in Scotland. It is a vision for the sort of forestry we want to see in the future: forestry that touches everyone's life; that helps the economy to grow; provides attractive and diverse habitats for wildlife; and helps to connect us with our past and our future.

I am acutely aware that publishing this Strategy is just the beginning of a process leading to further action. Consequently, I am now looking to Forestry Commission Scotland, along with other partners in government, to lead the implementation phase to ensure that the next five years and beyond are as fruitful as the last.

This is not a strategy for government alone. I invite all interested people to help realise our vision for Scottish forestry. It is people, not strategies, that will make things happen.

Rhona Brankin

Deputy Minister for Environment and Rural Development October 2006

Executive Summary

The Scottish Forestry Strategy is the Scottish Executive's framework for taking forestry forward through the first half of this century and beyond. It sets out a vision of a forestry sector that is:

- diverse and strong;
- in tune with the environment;
- employing many people in a wide range of enterprises; and
- providing the many other services and benefits that people need, now and for the future.

The Strategy is looking ahead to the second half of this century, but it is focussing on the key priorities over the next decade.

Our vision	By the second half of this century, people are benefiting widely from Scotland's trees, woodlands and forests, actively engaging with and looking after them for the use and enjoyment of generations to come. The forestry resource has become a central part of our culture, economy and environment.					
Principles	 Sustainable development – underpinned by sustainable forest management. Social inclusion - through helping to provide opportunities for all, and helping to build stronger communities. Forestry for and with people. Integration with other land uses and businesses. 					
Outcomes Improved health and well-being of people and their communities.		Competitive and innovative businesses contributing to the growth of the Scottish economy.		High quality, robust and adaptable environment.		
Objectives	 Assist community participation. Enhance opportunities for health and enjoyment. Contribute to growth in learning and skills. 	 Develop a more efficient and competitive timber supply chain. Facilitate the development of markets for forest products. Facilitate rural business diversification and development. Increase the contribution of forestry to tourism. 		 Help to tackle climate change. Contribute positively to soil, water and air quality. Contribute to landscape quality. Protect and promote the historic environment and cultural heritage. Help to protect and enhance biodiversity. 		
Key themes						
	TIMBI	ER	COMMUNITY DEVELOPMENT	ENV	/IRONMENTAL QUALITY	
	BUSIN		ACCESS AND HEALTH	ВІ	ODIVERSITY	

Principles

The Scottish Executive's top priority is to grow the economy in a sustainable way to raise everyone's quality of life. The Scottish Forestry Strategy can help to realise this ambition. Its core principles are based on sustainable development and social inclusion, achieved through a culture of 'forestry for and with people' and delivered in well managed forests and woodlands that integrate effectively with other land uses and businesses.

Achieving the vision

Seven key themes will help achieve the vision:

- Using forestry, and adapting forestry practices, to help reduce the impact of climate change and help Scotland adapt to its changing climate.
- Getting the most from Scotland's increasing and sustainable timber resource.
- Strengthening forestry through business development to underpin sustainable forest management and support economic growth and employment across Scotland.
- Improving the quality of life and well-being of people by supporting community development across Scotland.
- Making access to, and enjoyment of, woodlands easier for everyone to help improve physical and mental health in Scotland.
- Protecting the environmental quality of our natural resources (water, soil and air), contributing to and improving our scenery, and helping to make the most of our unique historic environment.
- Helping to restore, maintain and enhance Scotland's biodiversity, and increasing awareness and enjoyment of it.

Scottish forestry will need to integrate effectively with other land uses - and with sectors such as energy, transport, health, water, education and tourism - to get the most out of these key themes.

Delivery

Delivering the vision is based on the principles of:

- sustainability;
- long-term planning;
- good woodland management;
- integration with other land uses and businesses;
- reflecting regional and local priorities; and
- maintaining high professional standards.

Executive Summary

Ways of delivering the vision include:

- information and guidance;
- regulation;
- incentives;
- public sector services; and
- state intervention.

Almost two thirds of Scotland's woodland area is owned and managed by private individuals, businesses, local authorities, charities, community groups, and a wide range of other interests. They all have a key role in helping to deliver this Strategy.

The national forest estate - managed on behalf of Scottish Ministers by Forestry Commission Scotland includes just under one third of Scotland's woodland area. It is increasingly focused on six priorities:

- safeguarding 'national forestry treasures';
- delivering forestry for people and rural development;
- managing landscape-scale areas for threatened species and habitats;
- retaining sufficient timber production potential to help market stability and development;
- using acquisition, sale or land transfer, partnerships and other arrangements to generate a greater scale and pace of change; and
- sustaining sufficient regional presence to provide policy development, exemplar and leadership roles.

Targets

Many people and organisations involved in the consultation process asked for a stable, strategic framework that sets out long-term directions for the future of forestry in Scotland. The Strategy reflects this and shorter-term milestones and targets will be set out in subsequent Strategy Implementation Plans (see below).

We would like to see Scotland's woodlands increase from 17.1% of our land area to about 25%. Work done for Forestry Commission Scotland by Macaulay Research Consultancy Services indicates that this is feasible. We will make regular reassessments of Scotland's needs and set targets through the Implementation Plans.

The Scottish Executive has two wider commitments relevant to forestry:

- Bringing 80% of the special features on Scotland's nationally important nature sites into favourable condition by March 2008 (Source: Building a Better Scotland: Spending Proposals 2005 - 2008).
- The forestry sector delivering annual carbon savings of 0.6 million tonnes of carbon (MtC) by 2010, o.8 MtC by 2015 and 1.0 MtC by 2020 (Source: Changing our Ways: Scotland's Climate Change Programme).

Implementation

Forestry Commission Scotland will be the Strategy's 'champion'. It will also have overall responsibility for monitoring and reporting on progress through a series of short to medium-term Implementation Plans that define milestones and indicate the target rate of progress. The first of these will be produced in 2007.

The Scottish Forestry Forum will give advice on preparing the Implementation Plans and on annual reporting against targets and milestones. The Plans will be reviewed annually and a report posted on the Commission's website.

Review

Forestry Commission Scotland, with advice from the Scottish Forestry Forum, will consider the need to review the Strategy after five years.

Strategic Environmental Assessment

For details of the Strategic Environmental Assessment that informed this Strategy, please visit www.forestry.gov.uk/sfssea

Our Vision for Scottish Forestry



1.1 Introduction

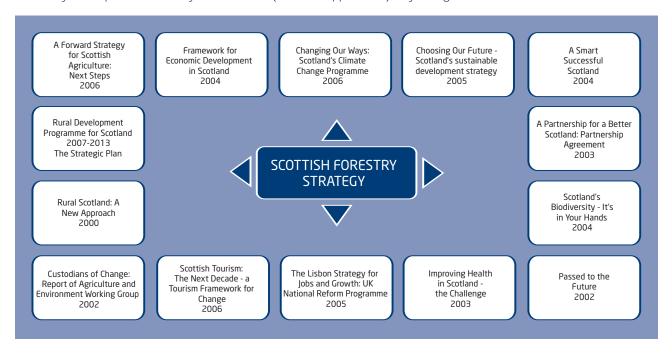
By its very nature forestry is long-term, but this remarkable land use also has immediate relevance to everyone in Scotland. It can provide, simultaneously: a sustainable supply of environmentally friendly building materials and other products, such as food; a source of renewable energy; a way of storing carbon; a home for wildlife; somewhere to play and exercise, or simply a place to recuperate from the stresses of modern life; a place to work or learn; more beautiful town and rural landscapes; clean air; reduced flood risks; screens for noise; and a focus for community cohesion and development.

The Scottish Executive's first integrated framework for the long-term development of forestry in Scotland, Forests for Scotland - The Scottish Forestry Strategy was published in 2000. Changes at international and national levels indicated the need for a review that was completed in 2006 and highlighted a number of important opportunities and challenges for forestry in the 21st century (see Appendix 2).

This Strategy sets out a vision and a process for realising the potential of forestry through the 21st century, with a particular focus on the next decade.

1.2 Context

Forestry now operates in a very wide context (see also Appendix 2). Key linkages include:



1.3 Principles

Well planned, well managed forests provide a wide range of benefits.

This Strategy's overarching principles are sustainability, through sustainable development underpinned by sustainable forest management and social inclusion.

Sustainable economic growth, to raise everyone's quality of life in Scotland, is the Scottish Executive's top priority. Forestry can contribute much to sustainable development through the internationally recognised standards of sustainable forest management set out in the UK Forestry Standard.

Support for Scottish forestry will also help to combat social exclusion by promoting opportunities for people to benefit from woodlands and woodland management, helping to tackle the barriers to inclusion, helping children and young people get the best possible start in life, and helping to strengthen communities and regenerate deprived areas.

These key principles will be achieved through a culture of 'forestry for and with people' that embraces the social, economic and environmental functions of forestry. It will include everyone, from people who own or work in woodlands, to people whose only contact with woodland might be a view from a coach or a train. We recognise that our wider environment is of vital importance in its own right, but it still requires conscious effort, by people, to look after it.

1.4 Structure

Part One shows the progression from our vision to a set of objectives to achieve three broad outcomes.

The vision, outcomes and objectives are relevant in urban as well as rural areas. They can apply to large-scale and small-scale woodlands, and they are relevant in local and national contexts.

Our vision for Scottish forestry

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

2006	Second half of the 21st century
Woodlands comprise 17.1% of Scotland's land area.	Woodlands have expanded to around 25% of Scotland's land area.
Forestry is generally perceived to be a stand-alone land use.	• Forestry is fully integrated with other rural and urban land uses. It is contributing positively to other non-land based agendas such as energy, housing and health.
Scottish forestry's role in tackling climate change is beginning to be recognised.	 Forestry has a major role in helping Scotland to adapt to climate change. Examples include its effective contribution to sustainable flood management, and the presence of extensive habitat networks contributing to fully functioning and adaptable ecosystems. Forests are also providing a substantial wood fuel resource, and timber is a favoured sustainable construction material.
• Forestry businesses are characterised by large-scale timber processing based on just under 7 million m³ of timber production each year. Many woodland owners are struggling to obtain sufficient direct returns from their woodlands and this is impacting on their ability to undertake desirable silvicultural operations, such as thinning.	• Competitive processing of a consistent and predictable timber supply of about 8.5 million m³ each year, with further growth potential, is making a significant contribution to Scotland's economy. A broader range of forestry related businesses is also well established, including new value-adding enterprises, local timber processing based on softwoods and hardwoods, biomass for energy, non-timber forest products and more businesses benefiting from the links between forestry and tourism. Woodland owners are able to manage their woodlands to good silvicultural standards and this, in turn, is generating many other public benefits.
 'Forestry for people' is seen mainly as a social function and relevant primarily to the public and charitable/voluntary sector. Community engagement with woodlands is gaining momentum. 	 'Forestry for and with people' is an integral part of the social, environmental and economic functions of all forestry sectors. Engagement with communities, and their ownership and management of woodlands, is widespread. Affordable, sustainable housing and the use of wood fuel for heat are additional benefits being derived by communities from forestry.
Forestry's role in the wider social agenda is beginning to be more widely recognised.	 The health and social benefits of forestry, and its role in rural and urban regeneration, are fully recognised. It features prominently in national and local government strategies and activities. Woodland managers are confident about working with a wide range of partners, including the voluntary sector.

2006

Second half of the 21st century

- Great progress has been made over the last 20 years in the design and location of forests. They are now widely enjoyed by millions of visitors each year and are very much part of the Scottish landscape. There are still some negative environmental legacies from the previous century. Examples include poorly designed forests that have yet to be 'restructured', plantations on inappropriate sites such as raised bogs or important blanket bogs, and areas where airborne acidification is still causing water quality issues.
- Forests established in the 21st century are widely acknowledged to be environmental, social and economic assets for Scotland. 20th century woodlands are now achieving their full potential, with previous negative legacies addressed and positive ones protected and enhanced.
- Archaeological sites in forests are generally being protected.
- All aspects of the historic environment and cultural landscapes are understood and their significance is fully recognised in the management and design of forests.
- Native tree species comprise 29% (45% of which is classed as semi-natural) of the total forest area.
 Information on the extent and condition of native woodlands is limited, although restoration projects are well under way, and about 50% of designated sites have 'favourable' or 'recovering' status. Recovery action for some priority species is underway, but more work is needed to reverse declines in populations and range.
- Native tree species comprise about 35% of the total forest area, in a network of functioning woodland and non-woodland habitats that span the valley bottoms to natural tree lines. Most ancient, semi-natural woodlands and priority habitats are in, or nearing, favourable condition. Woodland related priority species are generally in, or nearing, favourable population status, both in number and range. Restoration of native woodland on Plantations on Ancient Woodland Sites is well under way on the most worthwhile 70% of sites, with remnant native woodland communities maintained or enhanced on the remainder. The growing of broadleaves for quality hardwood timber supplies an expanding hardwood industry.
- The national forest estate comprises 35% of all woodland, and is predominantly of spruce and other non-native conifers. For historic reasons, native species comprise just 17 % of the forest area. Management is primarily on a clear felling basis, producing just under 50% of the timber harvested in Scotland. It is the largest provider of outdoor recreation in Scotland and has made good progress in large-scale native woodland restoration projects.
- Application of a repositioning policy has enabled the
 nature and distribution of the national forest estate to
 better reflect its role and purpose. It is focused on
 safeguarding 'national forest treasures', areas of
 greatest public benefit, landscape-scale core areas for
 threatened species and regional habitat networks,
 timber production to facilitate market stability and
 development, and fulfilling an exemplar and leadership
 role. The proportion of native tree species has increased
 significantly through a combination of repositioning and
 forest restructuring. More woodlands are being managed
 by low impact systems. It is a national tourism asset.
- Just over 65% of woodlands are in non-state ownership and 28% are covered by approved, long-term forest plans.
- Non-state woodland comprises about 70% of the total forest area, and the majority are covered by approved, long-term forest plans.

OUTCOME 1: Improved health and well-being of people and their communities

Objectives

Assist community participation

- maintain constructive community engagement with forestry
- · develop strong relationships between communities and their local woodlands
- assist urban and rural regeneration
- contribute to the provision of sites for affordable housing and other community facilities

Enhance opportunities for health and enjoyment

- remove the cultural and perceptual barriers to woodland access for all sectors of society
- provide attractive opportunities for responsible outdoor access
- help the health care sector make greater use of woodlands
- maximise the potential of green networks in the city regions
- · encourage better interpretation of woodlands and their context
- increase opportunities for enjoyment in woodlands
- · engage younger audiences

Contribute to growth in learning and skills

- · help the education sector make greater use of forestry
- use forestry as an exemplar of sustainable development
- encourage responsible citizenship
- encourage new entrants into the forestry jobs market
- · develop a safety conscious, multiskilled forestry sector workforce
- use forestry to help people aquire practical and transferable skills
- · promote opportunities for volunteering in forestry

OUTCOME 2: Competitive and innovative businesses contributing to the growth of the Scottish economy

Objectives

Develop a more efficient and competitive timber supply chain

- · develop predictable and stable supplies of good quality timber
- reduce harvesting and transport costs
- encourage improvements to timber quality and yield
- encourage opportunities for adding local value

Facilitate the development of markets for forest products

- increase the market share and value of home-grown timber
- improve sector efficiency
- develop markets for wood fuel and biomass for energy
- encourage small businesses supplying local markets
- make the most of non-timber forest products
- promote the use of timber in sustainable construction
- encourage the hardwood timber sector

Facilitate rural business diversification and development

- encourage farm business diversification
- help secure the benefits of integrated land use
- capture opportunities for local forestry related enterprise
- encourage woodland expansion for social, economic and environmental benefits

Increase the contribution of forestry to tourism

- promote forest tourism as part of sustainable rural development
- increase economic benefits to woodland owners and communities from tourism
- help increase the number and variety of visitors to Scotland
- · improve customer focus

OUTCOME 3: High quality, robust and adaptable environment

Objectives

Help to tackle climate change

- · help increase awareness of climate change
- · prepare and implement a climate change action plan for Scottish forestry
- · investigate potential climate change impacts and adaptation measures
- increase carbon sequestration in Scottish forests
- help to develop a thriving wood fuel sector
- encourage the further substitution of wood for high embedded energy materials
- encourage other appropriate renewable energy projects on forest land
- · contribute to sustainable flood management

Contribute positively to soil, water and air quality

- · endorse sustainable soil management
- · help to improve the quality of surface and ground water bodies
- integrate forestry planning and practice in River Basin Management Plans
- encourage the restoration of forest wetlands
- use woodlands to help improve urban air quality and reduce noise pollution
- · support woodland expansion for the restoration of degraded landscapes
- use 'green' technology to minimise emissions from forestry operations
- encourage effective waste management in forestry

Contribute to landscape quality

- · respect local landscape character in forest planning
- · respect geodiversity and historic landscapes in forest planning
- enhance the quality and diversity of farmed landscapes
- · increase the use of low impact systems of forest management
- use woodland to improve the urban landscape
- · enhance views along transport corridors
- contribute to landscape-scale habitat restoration projects

Protect and promote the historic environment and cultural heritage

- manage the historic environment sensitively
- value the cultural history and meaning of forests, woodlands, trees and the historic environment
- · recognise the tourism potential of the historic environment
- encourage the development of living heritage and the arts in woodlands
- encourage the use of Scottish timber and traditional construction techniques

Help to protect and enhance biodiversity

- · restore and enhance priority habitats
- increase the focus on priority species
- · secure biodiversity benefits from sustainable forest management
- · take biodiversity into account in all decision-making and best practice guidance
- promote a landscape-scale approach to habitat networks
- help protect ancient/heritage trees
- increase awareness and involvement of all sectors of society

Achieving the Vision



2.1 Introduction

Activity to achieve this Strategy's vision, outcomes and objectives will focus on a number of key themes:

- Climate change
- Timber
- Business development
- Community development
- Access and health
- **Environmental quality**
- Biodiversity

The key themes are relevant in urban as well as rural areas. They apply to large-scale and small-scale woodlands, and in local and national contexts. They are not prioritised at a national level as the relative importance and weighting given to them will vary widely according to local economic, social and environmental circumstances.

The consultation process for this Strategy indicated a strong wish for a stable, strategic framework, setting out clear, long-term directions for the future of forestry in Scotland. For that reason, detailed targets have not been set in this Strategy (but see Part Three Section 3.4, Implementation Process).

Priority actions and indicators in this section have been identified by a 'P'

Two overarching indicators apply to all seven key themes:

- **P** Area of woodland managed under approved, long-term forest plans.
- **P** Area of certified woodland in the state and non-state sectors.

Achieving the Vision



KEY THEME 1: Climate change

Purpose

- Increase awareness of how the forestry sector can help to tackle the threats of climate change.
- Ensure that Scotland's woodlands and the forestry sector meet their full potential in facilitating ecological, economic and social adaptation to climate change.
- Capture opportunities for forestry to help mitigate climate change through the use of wood resources and habitat enhancement.
- Increase the amount of carbon locked up by Scottish forestry.

Why?

- 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.
- Forestry makes a net contribution to reducing atmospheric CO2 by carbon uptake in growing biomass, in vegetation and in soils. Managing and enhancing woodland related habitats can increase the amount of carbon taken up and stored in them. A further contribution is made when wood fuel substitutes for fossil fuels, and timber and wood products substitute for more energy intensive materials such as concrete and steel.
- Using wood for fuel (see www.usewoodfuel.co.uk) can provide local energy and employment as well as reducing timber haulage distances. Energy crops (such as short rotation coppice or short rotation forestry) can also provide local opportunities for rural diversification.
- Forest land can have a role in other forms of renewable energy generation such as wind and hydroelectric, subject to environmental and social safeguards.
- Changing Our Ways Scotland's Climate Change Programme recognises the increased contribution that the forestry sector can make (guided by the principles of sustainable development).

KEY THEME 1: Climate change

What needs to be done?

Increasing awareness of the forestry sector's contribution

- P Prepare a forestry sector climate change action plan.
- P Develop a sound evidence base for developing and monitoring forestry's contribution to tackling climate change.
- Raise awareness of the potential impacts of climate change and what actions forestry can take to assist.
- Consider climate change implications in deforestation decisions.
- Establish a basis for monitoring roundwood road miles ('timber miles') and facilitate projects that reduce the impacts of timber transport.

Adapting to climate change

- P Improve understanding of climate change impacts on woodland ecosystems and silviculture, and implement precautionary measures, such as forest habitat network creation.
- Maintain preventative measures and ensure readiness for pests, diseases and other threats, such as fire and wind.
- Increase the role of forestry in environmental protection including sustainable flood and catchment management, and soil protection.

Mitigating climate change

- P Ensure mitigation measures contribute fully towards meeting the commitments in Scotland's Climate Change Programme.
- P Develop a Biomass Action Plan for Scotland by the end of 2006, and ensure biomass forms part of a Renewable Heat Strategy.
 - Support biomass use for renewable energy, facilitating development of an efficient and reliable wood fuel supply chain.
 - Increase wood fuel usage to help achieve the Climate Change Programme targets.
- Encourage other forms of renewable energy production on forest land, subject to environmental and planning safeguards.
- **P** Promote increased use of sustainably produced timber and timber products in construction.
- Explore the potential for the development of biofuels from wood biomass.

Priority actions and indicators have been identified by a 'P'

KEY THEME 1: Climate change

Increasing carbon sequestration and retention

- P Harness the carbon sequestration potential of new woodland as a contribution to Scotland's carbon saving targets. Carbon gains will be greatest on fertile, low carbon soils.
 - Increase the area of appropriate new woodland to help achieve the Climate Change Programme targets.
- P Increase long-term carbon retention in woodlands through low impact silvicultural systems, promoting woodland regeneration (e.g. by managing grazing pressure) and by providing guidance on minimising carbon losses during forest operations.
- Encourage the development and monitoring of short rotation coppice and short rotation forestry on appropriate sites.
- Refine carbon sequestration modelling to reflect the Scottish situation.
- Help examine the feasibility of market-based mechanisms to facilitate trading of greenhouse gas reductions from land management activities in the UK context.

Indicators

- **P** Area of new planting.
- **P** Annual net carbon savings.
- **P** Installed capacity of wood energy plant (in megawatt thermal and megawatt electrical).
- Number of non-domestic, wood fuelled energy systems installed.
- Area of short rotation coppice.
- Index of roundwood road miles.

Achieving the Vision



KEY THEME 2: Timber

Purpose

- Maximise the economic potential of Scotland's timber resources.
- Encourage continued investment in timber processing by sustaining a predictable and stable supply of good quality timber.
- Promote the use of timber as a renewable, versatile raw material.
- Increase the efficiency of the timber supply chain to improve sector competitiveness, and minimise the social and environmental impacts of timber transport.
- Encourage continuing development of the hardwood timber sector in Scotland.

Why?

- 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 the coming decades.
- Timber is the primary source of direct revenue for many woodland owners and their main motivation for multipurpose woodland management.
- The standing value of timber has declined significantly over the last 10 years and the overall cost of the supply chain remains high, particularly in the light of recent fuel price rises.
- In the current market climate, some areas of harvesting and replanting have become uneconomic. This represents a threat to forest restructuring and the environmental, employment and downstream economic benefits that go with it.
- Adding value to wood requires a thriving, competitive processing sector. Over the last 15 years, £60 million of private sector inward investment has been achieved each year. Reliable forecasts of timber availability and timber properties, coupled with reliable and consistent supplies of timber, are required if this is to continue.

- The current timber industry in Scotland is based, overwhelmingly, on softwoods, particularly Sitka spruce. This reflects market demand for its excellent properties for a variety of uses from construction, to board manufacture and paper products. Maximising the value of this represents a huge opportunity for Scotland.
- Reducing roundwood timber miles would help to reduce social, environmental and economic costs in the supply chain. Developing the timber transport infrastructure also remains an important priority for forest industries and local communities.
- Forestry can bring much needed economic activity and employment to fragile and remote rural areas, particularly through local, added-value wood processing and marketing.
- People managing woodlands for timber need to have the knowledge and skills to produce what the market requires, at the lowest cost, but without compromising the environmental and social requirements of sustainable forest management.
- The increasing rate of broadleaved woodland creation over the last 10 years, and an increased emphasis on bringing neglected native woodlands into active management, provide new opportunities to develop Scotland's hardwood timber sector.

KEY THEME 2: Timber

What needs to be done?

Promoting predictable and stable timber supplies

- P Facilitate a consistent and reliable timber supply as a basis for timber processing and wood fuel investments.
 - Institute a production forecasting initiative to explore how best to sustain consistent long-term timber supplies, and to clarify likely future levels of production and wood quality.
 - Increase the adoption of long-term forest plans, allowing more accurate prediction of private sector timber production.
- P Promote innovation, leading edge research and development, collaboration and competitiveness in sector development through mechanisms like the Scottish Forest Industries Cluster.
- · Promote development of the quality and diversity of timber resource required by the full range of existing and potential markets.
- Ensure the availability of timber market information of a quality and frequency that will facilitate investment decisions and business strategy development.
- Encourage the production of high quality timber (where quality is fitness for intended markets) and improvements in timber yield.
- Encourage silvicultural operations that enhance timber quality.
 - Encourage the use of genetically improved nursery stock.
 - Help maintain the silvicultural expertise required for the sustainable management of productive forests and the growing of high quality timber.

Encouraging more use of timber

- P Continue to raise awareness of the potential of wood as a versatile and sustainable raw material through procurement and construction guidance, sector campaigns such as wood.for good, and exemplar projects.
- Maintain and develop appropriate timber research and development capability, and encourage industry research collaboration for development of innovative timber products, standard specifications and construction systems, this including local use of timber resources in construction and land based enterprises.
- Improve the dissemination of research results to industry.
- Facilitate development of uses for lower quality timber and wood resources remote from major markets.
- Raise awareness of the characteristics of, and need for, suitable sites for major, as well as smaller, timber processing developments.

Priority actions and indicators have been identified by a 'P'

KEY THEME 2: Timber

Increase timber supply chain efficiency

- **P** Facilitate projects that reduce the cost and environmental impacts of timber transport.
 - Encourage the development of local timber markets, particularly markets based on wood fuel.
 - Develop the timber transport infrastructure through mechanisms such as the Strategic Timber Transport Scheme and through partnerships such as the Timber Transport Forum and Timber Transport Groups.
 - Achieve transport efficiency gains by increasing sector co-operation on timber transport logistics.
- Identify priority actions for increasing the efficiency of the timber supply chain.

Develop the hardwood sector

Promote silvicultural practices, supply chain development and markets to grow the hardwood timber sector in Scotland.

Indicators

- P Actual wood production.
- P Forecast wood availability from the private sector and the national forest estate.
- P Timber's contribution to Scottish Gross Domestic Product (added value).
- Sawmill log consumption and sawnwood output (softwood and hardwood).
- Index of roundwood road miles.
- Scottish wood's value share of the UK market.
- Timber use in construction relative to other materials.
- Area of new coniferous woodland.
- Area of new broadleaved woodland where timber production is a significant management objective.
- Sales of improved nursery stock.
- Volume of certified timber from Scottish forests.

Achieving The Vision



KEY THEME 3: Business development

Purpose

- Help to enhance the sustainable economic basis for forestry and develop the economic potential of Scotland and its regions.
- Support rural diversification and help sustain fragile rural communities.
- Help add value to the Scottish tourism industry and increase the benefits of it to woodland owners and local communities.
- Provide opportunities for acquiring new skills and experience through forestry and improve the skills base of the forestry sector.

Why?

- Securing the economic viability of forestry underpins sustainable forest management and the delivery of public benefits from woodlands.
- Forestry can bring much needed economic activity and employment to fragile and remote rural areas.
- Diversifying income sources from provision of forest goods and services increases the robustness of the forestry sector and brings economic benefits to the wider rural economy.
- Woodlands can support wider development and regeneration. They can accommodate and screen building development, provide sites for affordable housing and community facilities, and create locations that attract people to live, work and enjoy themselves.

- Woodlands form an important backdrop to the tourism industry. Increasing the direct economic benefits of tourism to woodland owners supports the sympathetic management of woodlands.
- Recruitment, retention and development of appropriately skilled people are growing challenges in the forestry sector. Workforce skills and motivation drive innovation and quality of delivery. Workforce development enhances business competitiveness and productivity.
- The structure of the sector, with much work done though short-term contracts, contributes to high staff turnover rates and hinders investment in training.

KEY THEME 3: Business development

What needs to be done?

Realising economic potential

- P Ensure the availability of co-ordinated business development support and advice that is specific to the sector.
- Promote local co-operation and clusters to secure new markets and increase the business potential of woodland related activity, including sustainable non-timber forest products and services.
- Raise the profile of the contribution of forestry to sustainable development.
- Promote woodlands as locations for a broad range of appropriate renewable energy projects.
- P Increase knowledge and awareness of the contribution woodlands can make to the economic regeneration of industrial areas through the creation of green infrastructures.

Contributing to rural development

- P Encourage appropriate woodland expansion and management that supports local businesses and provides options for farm diversification.
- · Promote a joined up approach to land management, identifying economic opportunities from more integrated approaches to land use.
- Capture the potential of forestry to provide green jobs.
- Explore the potential of emerging local wood fuel markets to move cost-effective processing closer to the rural timber resource.
- Increase recognition of the potential of woodland to accommodate and mitigate the visual impact of built development.
- Encourage development of community businesses and social enterprises through the sale or use of national forest land, where this is in the public interest.
- Encourage the establishment of woodland crofts to link housing, local rural livelihoods and woodland management.

Tourism

- · Develop the awareness of, and potential for, forest-based tourism and explore how it can help Scottish tourism compete in the global market.
- P Explore ways in which woodland owners can capture direct revenue from tourism.
- Promote modernisation and upgrading of the woodland related recreation and tourism infrastructure where this will make the most significant economic gains for the local, and national, economy.
- · Promote and develop the economic potential of deer stalking, fishing and other woodland related field sports.
- Capture the full economic potential of the emergence of mountain biking as a major, largely forest-based, activity and help to develop the potential for other world-class sporting facilities in forests.
- Ensure forests contribute fully to the quality and breadth of Scotland's growing ecotourism sector.

KEY THEME 3: Business development

Skills

- P Finalise and implement a Sector Skills Agreement and a subsequent industry action plan for the trees and timber industry.
- Promote continuous improvements to the safety culture in the forestry sector.
- Work with forestry education providers, Lantra (Sector Skills Council), and the wider Skills for Business Network to ensure the availability of higher and vocational education routes into forestry that meet the needs of industry and employers.
- Improve the availability and uptake of appropriate training in the forestry sector, supported though funded training schemes where appropriate, and promote the value of transferable forestry skills for intermediate training schemes and volunteering initiatives in rural and urban areas.
- Encourage recruitment and retention into the forestry sector by promoting forestry careers and exploring how to make jobs attractive, multiskilled and offering development potential.
- Support the development of flexible modern rural apprenticeships, and increase support for and use of Modern Apprenticeship programmes such as Scottish Progression Awards and Scottish Trees and Timber Modern Apprenticeship.
- Encourage Continuing Professional Development programmes in the sector.
- Work with Lantra (Sector Skills Council) and the forest industry to develop work experience opportunities for secondary school pupils, and explore the potential of a land based vocational curriculum.
- Support the creation of a web-based 'one stop shop' where the land based sector can find out about relevant training courses and provision in Scotland.
- With Lantra (Sector Skills Council) and the wider Skills for Business network, facilitate the development of a training needs analysis tool for the sector and the development of competency frameworks that recognise accredited and non-accredited learning.

Indicators

- **P** Forestry's contribution to Scottish Gross Domestic Product (value-added).
- **P** Employment in the forestry related sector.
- Uptake of Land Management Contract business development grants by the land use sectors.
- Staff turnover rates in the forestry sector.
- Number of structure plans recognising woodland benefits.
- Numbers of people enrolling or registering for forestry related short courses, qualifications and Modern Apprenticeship programmes.
- By 2008 we will have developed a cost-effective, measurable indicator that recognises forestry's direct contribution to the tourism sector.

Priority actions and indicators have been identified by a 'P'

Achieving the Vision



KEY THEME 4: Community development

Purpose

- Help to improve the quality of life and well-being of people across Scotland.
- Develop forestry's role in education and lifelong learning.
- Enhance forestry's engagement with communities.
- · Support community ownership and management on the national forest estate, where this will bring increased benefits.

Why?

- Forestry can contribute to 13 out of the 15 headline quality of life indicators (UK Indicators of Sustainable Development).
- Well designed, well managed woodlands can transform degraded surroundings and brownfield sites into community assets by 'greening and screening', improving environmental quality, increasing attractiveness to inward investment, and providing a landscape framework for new development.
- Woodlands and trees, and their local and historic associations, contribute to providing a strong sense of place and cultural identity.
- Fewer than one in five people in Scotland have easily accessible local woodlands.
- Woodlands and associated environmental improvements can provide a focus for people to take part in the decisions that shape their lives by providing an 'entry point' for building community cohesion and by increasing the capacity of people to become 'active citizens'.

- Woods and associated land can provide opportunities and places for development of community and small business enterprises, and can be a vehicle to develop employability, self-esteem and transferable skills.
- Education and lifelong learning are essential parts of sustainable development. Woodlands are excellent 'outdoor classrooms' to promote environmental awareness and help to develop positive attitudes to learning among people who feel excluded from traditional forms of education.
- People who know more about forestry and its cultural setting are more likely to support it and take better care of Scotland's woodlands and wider environment.

KEY THEME 4: Community development

What needs to be done?

Contributing to quality of life

- P Promote the provision of welcoming and well managed woodlands, in and around communities, that contribute to quality of life and provide opportunities for exercise, learning, relaxation and enjoyment, by building on the successful Woods In and Around Towns and similar initiatives.
- Promote and support the use of new woodland as a cost-effective way of improving derelict, underused and neglected land.
- Highlight the use, value and benefits of trees and woodlands to planners and developers, and encourage the use of planning processes to secure new community woodland.
- Improve the evidence base on ways to secure maximum benefit from woods in and around communities.
- Facilitate the provision of sites for affordable housing, other community facilities and, where applicable, woodland crofts.

Education and lifelong learning

- **P** Encourage the education sector to make greater use of woodlands for outdoor learning.
- Increase forestry's engagement in the secondary as well as the primary school sector by promoting vocational qualifications through the schools curriculum and by using woodlands to help pupils with special learning needs.
- Increase recognition of the forestry sector's potential to provide transferable skills through forestry related vocational and non-vocational qualifications.
- Explore forestry's potential contribution to lifelong learning through mechanisms such as the Lifelong Learning Forum and Community Learning and Development Partnerships.
- Encourage forestry-based 'return-to-work' and volunteering projects.
- Help communities develop their local identity through the cultural setting and historic environment in woodlands and through living culture, including the Gaelic language and the performing arts.
- Use woodland to demonstrate forestry's exemplar role in sustainable development, tackling climate change and conservation of biodiversity.

KEY THEME 4: Community development

Enhancing engagement with communities

- P Mainstream community engagement good practice in forestry through training programmes, Continuing Professional Development, and best practice standards associated with grant support.
- Maintain constructive involvement with community organisations and those representing small, forestry related businesses.
- Encourage entrepreneurial uses of timber, non-timber forest products and other woodland outputs for local business and employment opportunities.
- Promote training and capacity building among community volunteers in forestry skills and organisational management.

Encouraging community ownership and management

- P Increase opportunities for, and help support, community participation in forest ownership and management through mechanisms such as the National Forest Land Scheme, Community Right to Buy and grant support.
- Seek legislative changes that would enable the lease of national forest estate land for woodland management.

Indicators

- **P** Number of schools involved in woodland based learning activities.
- P Number of community-group partnerships involved in owning or managing woodland.
- Number of schools providing vocational courses that include forestry related skills.
- Percentage of adults who attended an organised learning activity or event linked with Scottish woodlands in the previous 12 months.
- Percentage of adults who have heard or read about Scottish woodlands in the previous 12 months.
- Number and area of land parcels sold or leased under the National Forest Land Scheme.
- Independent satisfaction rating of community partnerships on the national forest estate.

Achieving the Vision



KEY THEME 5: Access and health

Purpose

- Make access to woodlands easier for all sectors of society.
- Use woodland access to help improve physical and mental health in Scotland.
- Provide a greater range of ways for people to enjoy woodlands.

Why?

- The physical and mental health of 56% of men and 67% of women in Scotland is at serious risk from inactivity. The greatest public benefit comes from encouraging inactive people to participate in moderate activity.
- Children who visit, or use, woodlands continue to do so as adults.
- Woodland and street trees can help mitigate air pollution and climatic extremes in urban environments (see Key theme 6: Environmental quality).
- Woodlands are a naturally therapeutic environment, and have a positive effect on anxiety and depression by reducing stress and mental fatigue. They are an excellent setting to help people with behavioural and mental health problems.
- Fewer than one in five people in Scotland have easily accessible local woodlands.
- Many people in Scotland are unable or unwilling to take part in enjoyable woodland activity due to factors such as disability, distance, low income, or fear of crime. Using or creating woodland nearer to people, and creating opportunities for group activity (such as BTCV's Green Gym® or the many guided walks programmes operated by a wide variety of other organisations) can overcome these forms of social exclusion.

- 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.
- Woodlands can provide a sense of wonder and enjoyment for all. The historic environment and cultural setting of woodlands helps create a link between people and the past, ancient trees and woodlands capture public imagination, and biodiversity and geodiversity can help stimulate interest in environmental matters.
- Recreational use of woodlands can create new business opportunities and income for woodland owners.
- The forestry sector can help to embed statutory access rights, the Scottish Outdoor Access Code and the Disability Discrimination Act.

KEY THEME 5: Access and health

What needs to be done?

Making access easier

- Improve the evidence base on ways in which forestry can best contribute to inclusive access across Scotland.
- P Target appropriate woodland creation and woodland access improvements in areas where health and community need is greatest and current provision is weak.
- P Contribute to the effective implementation of land reform and assist local authorities and forest managers in the implementation of responsible access (Scottish Outdoor Access Code), including the development of local and Core Path Networks.
- Ensure woodland access is supported by planning guidance at all levels.
- Ensure the Disability Discrimination Act is fully recognised in forestry best practice.
- Encourage the active involvement of the forestry sector in the work of national and local Access Forums.
- Promote confidence in woodlands as a safe and welcoming environment, particularly in and around communities, for example through active woodland management, provision of recreation facilities and ranger presence.
- Maintain Public Rights of Way through woodlands and take them into account in forest design and management.

Helping to improve the nation's health

- P Achieve greater recognition for the role of forestry in providing cost-effective health benefits.
- Help to meet the health challenges set out in strategies such as Improving Health in Scotland the Challenge, Let's Make Scotland More Active and the National Programme for Improving Mental Health and Well-Being.
- P Work with relevant health professionals to develop, implement and monitor a "forests for health" partnership programme and associated indicators.
- Increase further the impact of the Forestry Commission's Active Woods campaign by increasing the range and spread of events, and raising awareness of the opportunities to take part.
- Help promote wider transport policies by encouraging the use of woodland paths that enable people to walk or cycle as part of their daily travel.
- Encourage more volunteering activity in woodlands.

KEY THEME 5: Access and health

Enabling people to enjoy woodlands

- P Focus support for access and recreation provision to priority situations that maximise delivery of public benefits.
- Encourage joined up access and recreation provision in the land use sectors, through mechanisms such as Land Management Contracts, long-term forest plans and the national forest estate.
- Encourage younger audiences by providing more opportunities for natural play in woodlands.
- Help to maximise the use and enjoyment of woodlands in city region green networks.
- Improve the setting, management and interpretation of the historic environment in woodlands.
- Encourage and support better interpretation in woodlands as a route to wider environmental awareness.
- Explore opportunities for forestry to contribute to current national access issues including wild camping, motorised access, and large-scale events.
- Encourage the use of woodlands for living heritage, including the performing arts.

Indicators

- P Proportion of the population with accessible woodland greater than 2 hectares within 500 metres, and (separately) greater than 20 hectares within 4 kilometres.
- Proportion of adults (16 years+) who visited woodland in previous 12 months.
- Number of visits to national forests.
- Number and length of Core Paths in woodlands.
- Percentage satisfaction with woodland recreation provision (through Public Opinion Survey).
- Health indicators will be developed as part of the forests for health programme.
- Number of formal 'volunteer days' associated with woodland activity.

Achieving the Vision



KEY THEME 6: Environmental quality

Purpose

- Help to protect Scotland's water, soil and air resource.
- Contribute to Scotland's diverse and attractive landscapes.
- Help to manage Scotland's historic environment and its interpretation and enjoyment.

Why?

- Good environmental quality is essential for Scotland's economy, public health and biodiversity. Conserving environmental quality is a fundamental requirement of sustainable forest management.
- Well planned, well managed woodlands can protect and enhance water quality by reducing the potential for watercourse acidification and soil erosion, and by stabilising riverbanks and reducing pollution in run-off. Appropriately managed woodlands can also have a positive role in Nitrate Vulnerable Zones.
- Soils are an important natural resource. They may also contain archaeological structures and artefacts, and evidence of past human activities.
- Good air quality is essential to human health. Trees and woodlands contribute, particularly in urban environments, by trapping harmful dust particles and absorbing gases such as sulphur dioxide and ozone.
- Tourism depends on our world-class scenery, geodiversity and diverse historic environment.

- Degraded and unsightly local environments impact on the quality of people's lives, and reduce inward investment.
- The historic environment is a unique and irreplaceable source of evidence about how people have lived in Scotland over thousands of years. It enables present and future generations to better understand and appreciate their place in history. The historic dimension of the landscape also contributes to its quality, character and meaning.
- Many designed landscapes and formal gardens contain rare, non-native trees and shrubs, many of which are now threatened in their native habitats. This resource can be invaluable to the conservation of biodiversity abroad.

KEY THEME 6: Environmental quality

What needs to be done?

Protecting water, soil and air resources

- P Ensure implementation of the relevant Forest Guidelines to avoid point source and diffuse pollution.
- Continue to aid the recovery of acidified rivers and lochs.
- Support the development of River Basin Management Plans, including examination of the potential for forestry in sustainable flood management and reducing nitrate losses into the aquatic environment in Nitrate Vulnerable Zones.
- Develop the evidence base for the potential of 'protection forestry' in Scottish conditions.
- Promote sustainable management of soils in the forestry sector, in line with the EU Thematic Soil Strategy.
- Promote the use of low impact management systems in areas with highly fragile soils.
- Promote the role of forestry and street trees in ameliorating air pollution in priority urban areas.
- Increase the use of green technology in forestry and encourage the continued improvement in emission standards in the processing sector.
- Encourage the forestry sector to take part in the Scottish Executive's National Waste Plan.

Contributing to Scotland's landscapes

- P Recognise local landscape characteristics and geodiversity, safeguard sensitive landscapes, and harness the potential of forestry to bring landscape improvements through high standards of forest design and operational planning.
- Promote the development of Landscape Character Assessments, Indicative Forestry Strategies and Local Forestry Frameworks that give guidance on how to integrate forestry in the landscape.
- Help meet the undertakings of the European Landscape Convention.
- **P** Encourage the restructuring of woodlands to increase structural and species diversity.
- P Help improve degraded or unsightly local environments through provision of well designed and well managed woodlands.
- Help to diversify farmed landscapes through appropriate woodland expansion.
- Promote the use of low impact management systems in areas particularly sensitive to landscape change.
- Encourage sensitive forest management to enhance the visual impact of woodlands on internal and external views.
- Facilitate forest design and management practices that support the aims of National Parks and National
- Encourage the sympathetic management of trees and woodland in sites listed in the Inventory of Gardens and Designed Landscapes, as well as valued individual ancient and heritage trees.

Priority actions and indicators have been identified by a 'P'

KEY THEME 6: Environmental quality

Managing the historic environment

- P Identify and safeguard significant evidence of the historic environment, including historic landscapes (see Historic Land-use Assessment Data), through the forest design planning process and by the sensitive management of forest operations.
- Encourage and support the active management, enhancement and interpretation of the most significant elements of the historic environment.
- Work with partners to integrate online historical, landscape and environmental data sources.

Indicators

- **P** Length of rivers in forested catchments for which ecological quality is maintained or enhanced.
- P Length of rivers affected by acidification where forestry is a significant exacerbating factor.
- Number of forestry operations or activities leading to direct pollution of the water environment.
- Percentage of woodlands covered by approved forest plans in areas designated for their landscapes.
- Percentage of woodland area managed under low impact silvicultural systems.
- Number of agreed Management Plans for Scheduled Ancient Monuments in forests.
- Number of recorded sites in the National Monuments Record of Scotland included in approved forest plans.

Achieving the Vision



KEY THEME 7: Biodiversity

Purpose

- Help to halt the loss of biodiversity, and continue to reverse previous losses, by:
 - targeted action for woodland and woodland related priority species and habitats; and
 - broader actions at a landscape/ecosystem scale.
- Increase awareness and public enjoyment of biodiversity, especially close to where people live or visit.
- Improve the knowledge of, and evidence base for, biodiversity and ensure biodiversity considerations are integrated into decision-making.

Why?

- Scotland's biodiversity is special, hosting 65 out of 159 conservation priority habitats and species listed in the European Habitats Directive.
- International commitments have been made on the conservation of biological diversity. The Nature Conservation (Scotland) Act 2004 introduced a general duty on public bodies to further the conservation of biodiversity and to have regard to the Scottish Biodiversity Strategy, the Convention on Biological Diversity and a list of species and habitats of importance to Scotland (the Scottish Biodiversity List).
- Maintaining or enhancing biodiversity is an integral part of achieving sustainable development.
- Native, and especially ancient, semi-natural, woodlands have high biodiversity and historic value. Fragmentation poses a serious threat to their biological richness and to the species that depend on them.
- Native woodlands are negatively impacted by intense deer browsing and sheep grazing, and invasive species such as Rhododendron ponticum.
- A number of key species such as red squirrel, capercaillie and black grouse require special help if they are to survive.

- The biodiversity value of some open ground habitats, such as raised bogs and internationally important blanket bogs, has been reduced in the past by poorly planned woodland expansion, encroachment or lack of appropriate management.
- Many woodlands established in the 20th century are composed mainly of non-native tree species, and are, ecologically, still 'young' forests. With age and with restructuring these plantations are becoming increasingly diverse, and significant biodiversity gains will arise as this process continues.
- An integrated approach to supporting land management, such as through Land Management Contracts, can help create appropriate landscapescale habitat mosaics and networks.
- Biodiversity is as important to people in urban areas as it is to rural communities. With 10-40% of our towns and cities made up of greenspace, there is great potential to use that resource for its health, wealth and education benefits.
- There is a need to better understand the role of genetic conservation in woodlands.

KEY THEME 7: Biodiversity

What needs to be done?

Reverse biodiversity decline by targeted action

- P Achieve favourable conservation status for woodland and associated open habitats in Sites of Special Scientific Interest (SSSIs), Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and Ramsar sites.
- P Restore and improve the condition of native woodlands and associated open habitats in line with the UK Biodiversity Action Plan's revised Habitat Action Plans and Species Action Plans.
- P Maintain and enhance ancient woodland features in Plantations on Ancient Woodland Sites (PAWS) and restore to native woodland, at an ecologically appropriate pace, sites with a significant biodiversity legacy or at key locations in native woodland habitat networks where the remnant ancient woodland plant communities are most at risk.
- P Focus conservation effort on species listed in Species Action Plans (SAPs) which are: dependent on woodland management; regarded to be most at risk; and are not responding sufficiently to wider habitat management.
 - Prepare and implement a targeted action plan for the conservation of red squirrels.
 - Continue to help with the recovery strategies for capercaillie and black grouse.
- Restore and expand priority open ground habitats at key locations where the benefits of woodland removal outweigh the benefits of retaining woodland cover.
- Ensure that the protection of woodlands of high biodiversity value is a principal consideration in the development control process.

Reverse biodiversity decline by broader actions

- P Encourage exemplary and collaborative deer management, following the Deer Commission for Scotland's Best Practice Guidance, to secure biodiversity objectives and effective woodland management.
- P Support the creation of new native woodlands, prioritised through appropriate evaluation tools, and in line with Habitat Action Plan targets, and focusing on:
 - forest habitat networks and links to wider habitat networks;
 - woodland types currently under-represented in Scotland;
 - areas with the lowest native woodland cover; and
 - areas that contribute most to urban greenspace networks.
- Continue to diversify planted woodlands through restructuring and the use of an appropriate diversity of silvicultural systems.
- Pursue opportunities for ambitious forest landscape restoration projects, particularly through the national forest estate.
- Ensure policy on genetic conservation in woodlands develops in accordance with latest scientific knowledge, and promote the supply and use of suitable planting stock for native species planting.

Priority actions and indicators have been identified by a 'P'

KEY THEME 7: Biodiversity

Increase awareness

- P Increase awareness, understanding and enjoyment of the biodiversity value of all woodland types, and engage more people in woodland conservation, particularly through communities, community forest groups and volunteering networks (see Key theme 4: Community development and Key theme 5: Access and health).
- **P** Encourage the education sector to make greater use of woodlands.
- With partners, use urban greenspaces to increase the accessibility of biodiversity to all sectors of society.

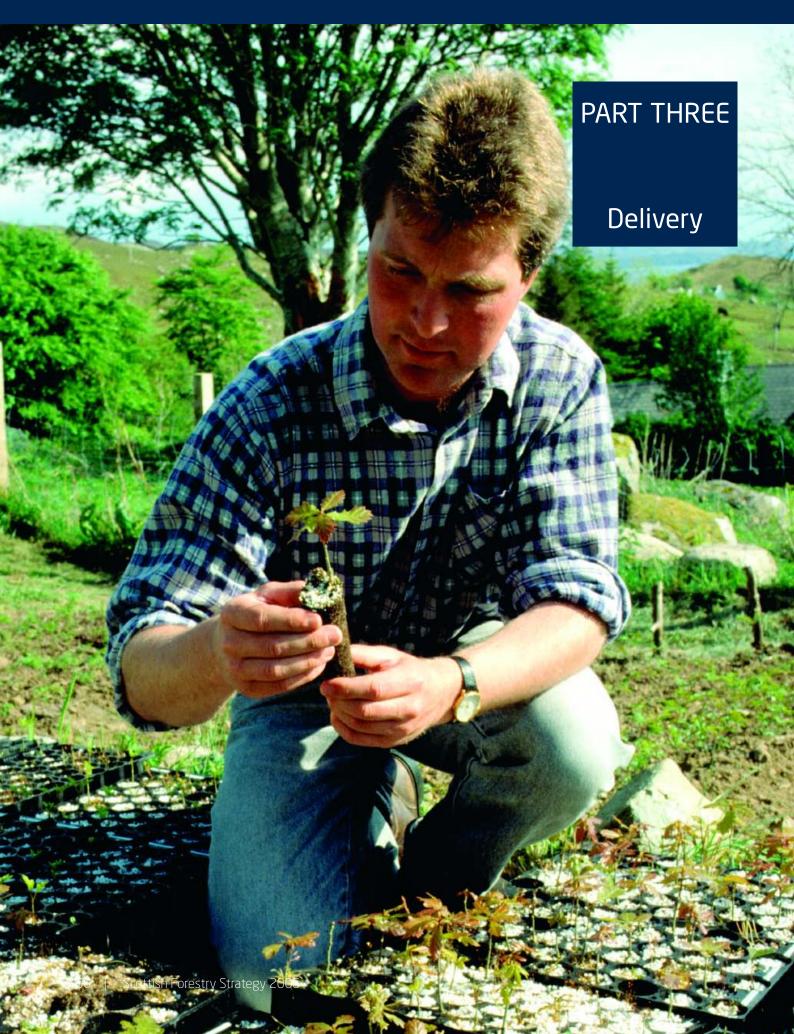
Improve knowledge for better decision-making

- P Ensure biodiversity is an integral consideration in all decision-making, best practice guidance and forestry support measures.
- P Implement the Native Woodland Survey of Scotland and the National Inventory of Woodlands and Trees to establish a clear baseline on the extent and composition of woodlands in Scotland.
- Continue to develop biodiversity evaluation tools such as BEETLE and HaRPPS.
- Improve the evidence base on ways to secure maximum biodiversity benefit from woodlands, consistent with the achievement of other management objectives.
- · Develop guidance on the recording and monitoring of woodland biodiversity, and the practical use of monitoring information in woodland management.
- Encourage improved understanding and appropriate use of managed grazing in woodlands and wood pasture.
- Engage effectively with the Local Biodiversity Action Plan process.
- Facilitate co-ordination between adjacent woodland owners through Land Management Contracts, forestry grants and the national forest estate.

Indicators

- P Area of native woodland.
- P Percentage of woodland SSSIs in favourable or unfavourable recovering condition.
- P Progress against Habitat Action Plan targets for native woodland condition, restoration and expansion.
- Number of woodland related UK Biodiversity Action Plan species and habitats identified as stable or increasing/recovering or in favourable condition; and the number identified as declining.
- Area of PAWS with a commitment to restoration under long-term plans.
- Area of woodland with active, approved deer management plans.
- Area of woodland converted to priority open ground habitat.
- Loss of ancient, semi-natural woodland to development.
- Woodland Bird Index.
- Woodland structure and composition: deadwood; woodland structural diversity; and tree and shrub species diversity.

DELIVERY





3.1 Introduction

The Scottish Forestry Strategy sets out a strategic framework for the long-term development of forestry in Scotland. It integrates with wider land use policies and the broader aims of the Scottish Executive.

Almost two thirds of Scotland's woodland area is owned and managed by private individuals, businesses, local authorities, charities, community groups, and many other interests. They all have a key role in helping to deliver this Strategy and are motivated by a range of factors including profit and individual beliefs.

3.2 Key principles

Sustainable forest management (SFM)

- The Scottish Forestry Strategy is underpinned by the need for SFM as benchmarked by the UK Forestry Standard. All publicly funded forestry in Scotland is required to meet this Standard.
- Delivery of the Strategy must contribute to sustainable development underpinned by SFM. Generating economic returns from woodlands is consistent with this.
- The internationally recognised UK Woodland Assurance Standard provides an independent assurance about the quality and environmental impacts of forest management. It also enables the products from certified woodland to have appropriate environmental labelling. By 2006, over half of the woodland area in Scotland had been certified against this Standard, including the whole of the national forest estate.
- The Scottish Executive is committed to increasing the area of certified woodland in Scotland.

Long-term planning

- Sustainable forest management must take a long-term view. Proper planning is essential if objectives are to be clarified and delivered to the required best practice standards, at least cost. Although the depth and complexity of such planning will vary with local circumstances and the scale of the woodland, long-term forest plans will, increasingly, be required as a condition of seeking forestry grants.
- Long-term planning on the national forest estate will be delivered through each Forest District's Strategic Forest Plans and individual Forest Design Plans.

Silviculture

- Silviculture is the primary means of delivering woodland management objectives. It is a management tool rather than an end in itself. A key aim of this Strategy is to improve the quality of forest management and timber quality through good silvicultural practices.
- The woodland management options available to woodland owners and managers are very wide although Scotland's windy and sometimes very wet climate, particularly in the west, can limit them.
- Two different silvicultural approaches are used in Scotland: clear felling; and the alternative, often called 'low impact silviculture'. Low impact systems are particularly variable and range from single tree selection systems to small coupe felling. Each system has its own advantages and disadvantages, and the best choice requires local judgement. However, low impact systems are currently under-represented in Scotland and a strategic aim of this Strategy is to increase their coverage.
- Thinning is one of the principal means of increasing crop quality. With low timber prices it can be a loss-making operation and this has implications for the achievement of longer-term timber quality, as well as hindering more immediate social and environmental gains. A strategic aim is to increase the use of thinning practices in Scotland.

'Joining up'

- The support of owners, managers and users of woodlands is crucial to the overall success of forestry in Scotland.
- Expertise through all parts of the forestry sector will be harnessed through national and regional advisory bodies (forums).
- A key forestry aim is to achieve best value sustainable rural development and urban regeneration by integrating effectively with other land uses and with sectors such as energy, transport, health, water, education and tourism.
- The culture of working in partnership will be evolved to release the full potential of forestry in Scotland.
- Effective engagement with Community Planning Partnerships is required so that forestry contributes to, and is part of, shared local visions, and customer focus is applied to all delivery actions.
- Formal and informal consultation processes will be harnessed to help optimise the use of public money in securing public benefits.
- The Scottish Executive's 'On the Ground Programme' aims to build a habit of joint working between the public bodies responsible for the care of our landscapes, environment and natural heritage.

Regional and local priorities

- There is a need for people to take an active part in the increasingly regional approaches to land use decisions and support mechanisms, such as regional forums, area advisory groups, local action groups or the proposed Scottish Rural Network. These are currently under consideration or development, for example, through the Scottish Rural Development Programme and implementation of the Water Framework Directive.
- The five Regional Forestry Forums have an important role in advising Forestry Commission Scotland on the regional implementation of this Strategy, and in identifying and monitoring their region's issues and priorities. Their role could evolve still further in the above context.
- Forestry Commission Scotland will work with Community Planning Partnerships to increase forestry's contribution to wider, local priorities.
- The role of long-term forest plans will be consolidated as a basis for local consultation on woodland creation and management.

Professional standards

- Efficient delivery of sustainable forest management requires high professional standards. The Institute of Chartered Foresters has an important role in maintaining and improving the standards of practice and understanding in all aspects of forestry, as well as protecting the public interest and promoting the professional status of foresters and arborists in Great Britain and Northern Ireland.
- Forestry Commission Scotland, which serves as the forestry department of the Scottish Executive, will ensure its grant aid and regulatory duties are discharged to a high standard of professional competence.



3.3 Delivery mechanisms

Five broad mechanisms will help to convert this Strategy's aspirations into action:

Information and guidance

- Effective promotion of forestry can help enthuse and excite people to take action.
- All planning decisions require good baseline information. Facilitating the creation, maintenance, development and dissemination of this is a core task of Scottish Executive bodies such as Forestry Commission Scotland, Scottish Natural Heritage, the Scottish Environment Protection Agency and Historic Scotland, as well as other national bodies such as the Royal Commission on the Ancient and Historical Monuments of Scotland.
- Research by the Forestry Commission (GB) is undertaken to implement the Science and Innovation Strategy for British Forestry.
 - Forest Research is the research agency of the Forestry Commission and is Britain's principal organisation for forestry and tree-related research. Its core roles are to provide the evidence base for UK forestry practices and to support innovation. External advice on the quality and direction of its research comes from the Advisory Committee on Forest Research.
 - The Centre for Timber Engineering (Napier University), universities, colleges and a variety of independent bodies and consultants also provide important education, research and development resources to the forestry sector.
 - The Expert Group on Timber and Trade Statistics compiles information on the supply and demand of timber and forest products, and advises on information needs in new areas.
 - The Forestry Research Co-ordination Committee aims to increase the benefits from forest research in Britain by encouraging collaboration among funders, avoiding duplication and by disseminating information.
 - A Research Liaison Officer for Scotland channels research knowledge to Forestry Commission Scotland and stakeholders, and feeds back requirements to Forest Research.
 - Wider science and research co-ordination in the Scottish Executive Environment and Rural Affairs Department is undertaken through the Science Co-ordinating Committee.
- A suite of Forest Guidelines links to the UK Forestry Standard. They are not statutory documents, but outline the legal and regulatory frameworks for forestry practice, and assist in interpreting and implementing them. They are available on the web and updated regularly. Forestry Commission Scotland assesses planting, felling and forest management proposals and activities against these Guidelines.
- · Forestry has wide-ranging relevance to the people of Scotland. It helps influence, and is influenced by, a number of other national strategies (see Appendix 2).
- The planning system has a fundamental role in the delivery of forestry objectives. A series of Scottish Planning Policies (SPPs) and Circulars sets out the Scottish Executive's policy on nationally important land uses and other planning matters. A series of Planning Advice Notes (PANs) gives advice on how best to deal with matters such as local planning, rural housing design, rural diversification and improving small towns and town centres.

- Circular 9/1999 gives a prominent role to planning authorities by having Indicative Forestry Strategies included in their Development Plans.
- Forestry Frameworks are not included formally in Development Plans, but provide a level of guidance and information between policy (Indicative Forestry Strategies) and delivery to help guide forestry at a more local level. Such Frameworks have been approved in both of Scotland's National Parks. They are key documents in relation to the statutory National Park Plans and, elsewhere, in relation to Local Plans.
- The Scottish Index of Multiple Deprivation identifies the most deprived areas in Scotland, but as it cannot identify small pockets of rural deprivation it should not be the only tool for targeting social priorities.

Regulation

- Forestry in Scotland is regulated primarily by Forestry Commission Scotland and mainly under the Forestry Act 1967 (as amended) and the Plant Health Act 1967. These mechanisms govern tree felling and replanting, plant health (preventing the entry of non-endemic pests and diseases of trees), and the use of forest reproductive material (through the Forest Reproductive Material [Great Britain] Regulations 2002). The Commission also has responsibility for administering the Environmental Impact Assessment (Forestry) (Scotland) Regulations 1999. More recently, forestry came under the scope of The Environmental Assessment of Plans and Programmes (Scotland) Regulations 2004 and the Environmental Assessment (Scotland) Act 2005.
- Regulation of some tree felling also comes under the scope of the Town & Country Planning (Scotland) Act 1997 through Tree Preservation Orders (TPOs), Conservation Areas and aftercare conditions for mineral workings. National Planning Policy Guideline 14 (Natural Heritage) seeks to protect trees and woodland (particularly ancient and semi-natural woodland) of natural heritage value or which contribute to the character or amenity of a particular locality. Following a review of TPOs, the Scottish Executive has confirmed its intention to make Forestry Commission Scotland a statutory consultee for planning applications involving the felling of more than 0.25 hectares of trees. This will increase the protection afforded to important trees and woodlands, particularly ancient ones.
- Through an amendment to the Forestry Act 1967 by the Wildlife and Countryside (Amendment) Act 1985, Forestry Commission Scotland has a duty to achieve a reasonable balance between "the development of afforestation, forest management and the production of timber, and the conservation and enhancement of natural beauty and the conservation of flora, fauna and geological or physiographical features of special interests." The Nature Conservation (Scotland) Act 2004 placed further duties on all public bodies, including the Commission, to further the conservation of biodiversity as far as is consistent with the exercise of their functions and to further the conservation and enhancement of SSSIs.
- A number of wide-ranging, generic regulations also apply to forestry, such as the Health and Safety at Work Act 1974 and the Water Environment and Water Services (Scotland) Act 2003.

Incentives

- Direct revenue from the sale of timber is a primary incentive for many private woodland owners. This market-led mechanism is a key driver for woodland management practices such as thinning or restructuring which, in turn, have wider environmental and social benefits. Adding value to the raw material and capturing new, locally based markets such as wood fuel, will be catalysts for good silviculture.
- Fiscal incentives apply to forestry. Income from timber sales in the UK is free of Income and Corporation Tax and growing timber is exempt from Capital Gains Tax. After two years of ownership, commercial woodlands qualify for 100% Business Property Relief from Inheritance Tax.
- Support for agriculture and forestry is governed principally by the EU's Rural Development Regulations. Measures under these Regulations will be guided by the Scottish Rural Development Strategic Plan and laid out in the Scottish Rural Development Programme (see Appendix 2). A key feature will be a move towards integration, using Land Management Contracts as a single gateway to land-management funding, including forestry and the LEADER approach.
- It is anticipated that less EU Funding will be available to the UK and Scotland following EU expansion. However, the principal mechanisms are likely to be: the European Agricultural Fund for Rural Development (EAFRD) (the single funding mechanism for rural development measures in the period 2007-2013); EU Structural Funding; LEADER; INTERREG; and LIFE.
- National Lottery funding is mainly through: the Heritage Lottery Fund (HLF); The Big Lottery; sportscotland; the Scottish Arts Council; Scottish Screen; and Awards for All.
- A wide range of other funding sources is also available, such as:
 - the Scottish Executive (for example Scottish Natural Heritage), local authorities, the Enterprise network and other public organisations awarding grants;
 - trust funding, such as the Esmée Fairbairn Foundation, and the Lloyds TSB Foundation for Scotland;
 - some 500 companies, which give almost £300 million annually to community organisations throughout the UK.

Access to external funding is very often dependent on partnership working, strong community support, and competent administration and control. Forestry Commission Scotland has in-house fundraising expertise and most local authorities, and all Councils for Voluntary Service, offer some form of 'funder search' facility, with appropriate support and advice. Community Planning Partnerships and the many external consultants operating in this field also offer advice and support. The Internet (for example, the Rural Community Gateway website) now provides quick reference to sources of external funding.

Public sector services

- A range of public services, including local authorities, the emergency services, Scottish Executive Departments and Agencies, and the Enterprise network, directly and indirectly help to support forestry. Examples include the maintenance of the public road network for timber transport, the construction and maintenance of piers for shipping timber, development of the broadband infrastructure, local site management for wildlife, and the creation and maintenance of Core Path Networks.
- The provision of advice, information, training or generic marketing by the public sector can also encourage private and voluntary/charitable interests to engage with forestry.

State intervention

- Direct intervention by the public sector may be appropriate where other delivery mechanisms fail to fully meet desired outcomes, where the costs are too high, or quicker delivery is required. Such intervention can be through providing land, staff resource, or capital. The intervention may be at the margins to encourage activity (e.g. support for the wood fuel supply chain) or could be the prime mover (e.g. the purchase of land in support of the Woods In and Around Towns initiative). Direct state intervention in land management is possible through the public land held by the Scottish Executive.
- The national forest estate is the single largest public land resource held by the Scottish Executive. In 2005, it comprised 668,000 hectares of land, which included 35% of Scotland's woodlands. It is managed on behalf of the Scottish Ministers by Forestry Commission Scotland.
 - In 2004, Ministers accepted the recommendations of a review of the long-term role of the national forest estate managed by the Commission, which included:
 - greater freedom for the Commission to buy and sell land and forests for public benefits;
 - increasing the scope for community purchase and lease of national forest land;
 - greater community involvement, including the development of community forests;
 - closer working between the forestry and tourism sectors;
 - taking a greater role in delivering the Woods In and Around Towns initiative;
 - providing more information about woodland recreation facilities near major cities and accessible by public transport;
 - more emphasis on strategic habitat networks and native woodland restoration;
 - working with the commercial sector to consider how best to use timber production from the national forests as a catalyst for the development of this sector of the economy; and
 - developing staff skills, experience, responsiveness to local priorities and ability to work co-operatively with a wide range of partners.

Scotland's national forest estate is being increasingly focused on six priorities, which benefit from the adoption of a long-term and strategic approach:

- safeguarding 'national forestry treasures';
- delivering forestry for people and rural development benefits where people live and work;
- managing landscape-scale core areas for threatened species and habitats;
- retaining sufficient timber production potential to facilitate market stability and development;
- using acquisition/disposal, partnerships and other arrangements to generate a greater scale and pace of change; and
- sustaining sufficient regional presence to exercise policy development, exemplar and leadership roles.

The 2004 review recommended a refocusing of the national forest estate towards these priorities. A programme for a gradual but definite change in the nature of the national forest estate, partly through changing management objectives in appropriate areas and partly through a programme of sales and reinvestment in new sites, woodland creation and recreation infrastructure, will emerge from an evaluation against these priorities.

Forestry Commission Scotland will continue to implement the recommendations of the 2004 Review and will develop a more detailed vision for the national forest estate. The Commission's Forest District Strategic Plans will also be kept under regular review, in the light of national guidance and including local consultation, to show how the vision will continue to be taken forward in each Forest District.

3.4 Implementation process

Role of Forestry Commission Scotland

Forestry Commission Scotland serves as the forestry department of the Scottish Executive and is responsible to Scottish Ministers. It will "champion" implementation of the Scottish Forestry Strategy and take overall responsibility for monitoring and reporting on progress.

Targets

- The consultation process for this Strategy indicated a strong wish for a stable, strategic framework, setting out long-term directions for the future of forestry in Scotland. For that reason, detailed targets have not been set in this Strategy (but see Implementation Plans below).
- Targets that arise through other Scottish Executive commitments are:
 - Bringing 80% of the special features on Scotland's nationally important nature sites in to favourable condition by March 2008 (Source: Building a Better Scotland: Spending Proposals 2005-2008).
 - The forestry sector to deliver annual carbon savings of 0.6 million tonnes of carbon (MtC) by 2010, 0.8 MtC by 2015 and 1.0 MtC BY 2020 (Source: Changing our Ways: Scotland's Climate Change Programme).

Implementation Plans

- · Ministers want this strategy to lead to effective action on the ground. Forestry Commission Scotland will produce short to medium-term Implementation Plans. They will contain targets and milestones, and will be aligned with available resources. The first will be produced in 2007 and will be posted on the Commission's website.
- The Scottish Forestry Forum will advise on the preparation of the Implementation Plans as well as annual reporting against their targets and milestones.
- The Implementation Plans will be considered annually and a report posted on the Commission's website.

Review

Forestry Commission Scotland, with advice from the Scottish Forestry Forum, will consider the need to review the Scottish Forestry Strategy after five years.

Appendices



Accessible woodland: access legislation gives a right of access to most woodland. In the context of the Scottish Forestry Strategy, the term 'accessible' is woodland that has an entrance, a useable path, track or forest road as well as access that is welcoming. In essence, an obvious way to get into the wood that people would feel comfortable using, a formal or informal route to follow and evidence that people are actually using the woodland.

Acidification: acidification of surface water occurs where there are large inputs of acidic pollutants and where catchments have susceptible acid soils and underlying rocks. The primary source of the pollutants comes from the burning of fossil fuels. Forest canopies can significantly enhance the capture of some of these pollutants, leading to increased acidity in stream water in susceptible catchments.

Active citizens: people who are willing, able and equipped to have an influence in public life.

Agroforestry: growing both trees and agricultural or horticultural crops on the same piece of land.

Ancient woodland: woodland that has been in continuous existence since before 1750 in Scotland (1600 in England, Wales and Northern Ireland). Ancient and semi-natural woodland is ancient woodland comprising mainly locally native trees and shrubs that derive from natural seed fall or coppice rather than from planting.

BEETLE (Biological and Environmental Evaluation Tools for Landscape Ecology): decision support tool that ranges from simple measures or indicators of landscape structure, to more complex measures of landscape function.

Biodiversity: simply the variety of life i.e. the variety of ecosystems and living organisms (species), including genetic variation in species.

Bioenergy: energy produced from biofuel.

Biofuels: fuel derived directly or indirectly from biomass (recently living organisms or their metabolic byproducts). It is a renewable energy, unlike other natural resources such as petroleum, coal and nuclear fuels. The carbon in biofuels was recently extracted from atmospheric carbon dioxide by growing plants, so burning it does not result in a net increase of carbon dioxide in the Earth's atmosphere. Includes ethanol, biodiesel, and methanol.

Biomass: non-fossilised and biodegradable organic material originating from plants, animals and microorganisms. In the context of this Strategy, the term is applied to fuel sources from crops (such as trees) or byproducts of crops (such as straw).

Brownfield site: previously developed land, which may or may not be contaminated and may now be classed as derelict.

Carbon sequestration: provision of long-term storage of carbon (in this case in trees, vegetation and soils).

Clear felling: cutting down all (or most) trees in an area. Usually employed due to the constraints of wet soils in windy climates, where any disturbance to tree canopies can lead to the remaining trees being down.

Cluster: (in relation to economic and industrial development) a grouping of industries linked through customer, supplier and other relationships that enhance competitive advantage.

Common Agricultural Policy: introduced 50 years ago by subsidising production of basic foodstuffs in the interests of self-sufficiency and food security. The aim is to provide farmers with a reasonable standard of living, consumers with quality food at fair prices and to preserve our rural heritage. The policy has evolved to meet society's changing needs, so that food safety, preservation of the environment, value for money and agriculture as a source of crops to convert to fuel have acquired steadily growing importance. It comprises some 36% of the EU budget.

Community Planning Partnerships (CPPs): local authorities have responsibility for creating CPPs under the Local Government in Scotland Act 2003. CPPs bring together key public, private, community and voluntary representatives with the aim of delivering better, more joined up public services.

Coppicing: woodland management based on regenerating trees by regrowth from the cut stumps (called coppice stools) rather than by replanting or from seed fall. The same stools are used through several cycles of cutting and regrowth.

Core Path Network: arising from the Land Reform (Scotland) Act 2003, local authorities have a statutory requirement to produce a Core Path Plan by February 2008. Plans are likely to comprise a mixture of existing paths with some new paths linking together to form an overall paths network. They will cater for all types of users, including walkers, cyclists, horse riders, canoeists and people with disabilities, and will grow out of consultations with local communities, land managers and other key stakeholders.

Coupe: area of woodland that has been, or is planned to be, clear felled.

Critical load: maximum load of a pollutant that a given ecosystem can tolerate without suffering adverse effects.

Cultural heritage: encompasses the qualities and attributes of places that have aesthetic, historic, scientific or social value for past, present or future generations. These values may be seen in a place's physical features, but can also be intangible qualities such as people's associations with, or feelings for, a place.

Cultural landscapes: places and landscapes that have been shaped or influenced by human occupation. Includes agricultural systems, modified landscapes, patterns of settlement and human activity, and the infrastructure of production, transportation and communication.

Ecological footprint: amount of land and water area a population would need to provide the resources required to support itself sustainably, and to absorb its wastes, given current technology.

Ecosystem: functional unit consisting of all the living organisms (plants, animals, and microbes) in a given area, and all the non-living physical and chemical factors of their environment, linked together through nutrient cycling and energy flow. Can be of any size - a log, pond, field, forest, or the earth's biosphere - but always functions as a whole unit.

Environmental limits: threshold beyond which the ecosystem is likely to suffer harm, even where the damage cannot easily be observed currently. Can be reversible.

Forest: usually applied to a large area of woodland of varied ages and tree species. In this Strategy, the terms 'forest' and 'woodland' are interchangeable.

Forestry: the practice of all aspects of tree management, including forest and woodland management, arboriculture, urban forestry and environmental forestry and research, education and training in these fields.

Forest Habitat Network: restoration of connections between woodland habitats to alleviate the adverse effects of fragmentation and reduced habitat size. Many species will benefit from the reduced isolation afforded by these restored connections.

Fuel poverty: when a household needs to spend more than 10% of its income on fuel to maintain a satisfactory heating regime. Main causes of fuel poverty in the UK are a combination of low incomes and poor energy efficiency in homes.

Gardens and Designed Landscapes: grounds that are laid out for artistic effect and most often include architectural features, trees, shrubs, flowers, lawns and parkland. Landscapes of national importance are listed in Historic Scotland's Inventory of Gardens and Designed Landscapes.

Geodiversity: natural diversity of geological, landform and soil features, and processes.

Green infrastructure: greenspaces (see below) which provide a setting for buildings or activities.

Green jobs: relate to sustainable development and the creation of jobs based on the next generation of clean, resource-efficient technologies.

Green network: functionally connected greenspaces (see below).

Greenspace: any vegetated land (or water) in, or adjoining, an urban area. Can include: derelict, vacant and contaminated land that has the potential to be transformed; natural and semi-natural habitats; green corridors - paths, disused railway lines, rivers and canals; amenity grassland, parks and gardens; outdoor sports facilities, playing fields and childrens' play areas; other functional greenspaces e.g. cemeteries and allotments; and countryside immediately adjoining a town that people can access from their homes.

Gross Domestic Product (GDP): market value of all final goods and services produced in a region/country within a given time period.

Hardwood: timber from broadleaved trees such as oak, ash, birch, beech, sycamore etc.

HaRPPS (Habitats and Rare, Priority, Protected Species): web-based decision support system providing access to information on habitats and rare, priority and protected species.

Hectare: unit of land area equal to 100 metres x 100 metres (or 2.47 acres in the Imperial system). There are 100 hectares in a square kilometre.

Historic environment: the imprint of past generations - monuments, buildings and sites in towns, cities and the countryside. It is all around us and has a wider meaning than 'cultural heritage'.

Indicative Forestry Strategy (IFS): local authority strategy for forestry in its area. They are included in Development Plans and have a prominent role in the planning system. Forestry Frameworks (including Woodland Strategies and Local Woodland & Forestry Frameworks) are also produced by local authorities and National Park Authorities. These provide a level of guidance between policy (IFS) and delivery mechanisms at local level.

LEADER: EU initiative to help rural communities improve their quality of life and economic prosperity. It is a bottom-up, locally driven approach to innovation and development administered by local partnerships.

Listed Building: certain historic buildings, which are of special architectural or historic interest, and receive special treatment under Planning Acts. Scottish Ministers are required by law to compile lists of such buildings, known as the List of Listed Buildings. Historic Scotland undertakes the survey and administers the List. Any work that would alter the character or appearance of a Listed Building requires listed building consent.

Living heritage: includes oral traditions and expressions including: languages; performing arts (such as traditional music, dance and theatre); social practices, rituals and festive events; knowledge and practices concerning nature and the universe; and traditional craftsmanship.

Low impact forest management: sometimes referred to as lower impact silvicultural systems. They retain a permanent woodland appearance, with felling done at a more intimate scale and with a preference for natural regeneration rather than planting.

Market failure: a claim that the market is failing to create maximum efficiency. It does not mean that the market has broken down or ceased to exist.

National Scenic Areas (NSAs): Scotland's only national landscape designation. Areas of land considered of national significance on the basis of their outstanding scenic interest that must be conserved as part of the country's natural heritage. There are currently 40 NSAs in Scotland, covering a total land area of 1,020,500 hectares and a marine area of 357,900 hectares.

Native woodland: woodland that wholly or mainly comprises species that colonised Scotland after the last Ice Age and before human influence on natural processes became significant.

Natura 2000 sites: protected areas established to protect habitats or species under the EU's Birds Directive (Special Protection Areas or SPAs) and the Habitats Directive (Special Areas of Conservation or SACs).

Nitrate-Vulnerable Zones: EU Nitrates Directive designation. Applies to areas that drain into waters that have been identified as being polluted, or which could be polluted, by excessive nitrate contamination. Usually associated with areas of intensive agriculture.

Non-market benefits: benefits that cannot be sold in conventional markets. For example, a woodland owner cannot sell (directly) the benefit of providing a habitat for red squirrels and so this is a non-market benefit, unlike, say, the sale of timber.

Non-timber forest products: forest-derived edible goods, herbal medicines, decorative goods, pharmaceuticals and cosmetics/aromatics.

On the Ground Programme: a Scottish Executive initiative which seeks opportunities to share services and facilities, align delivery actions and collaborate on finding solutions to emerging land-use issues. Includes the Agricultural offices, State Veterinary Service, Scottish Environment Protection Agency, Scottish Natural Heritage, Forestry Commission Scotland, Deer Commission Scotland, Crofters Commission, and the two National Park Authorities.

Pasture woodland: usually ancient woodland, typically comprised of scattered trees, where seasonal grazing restricted woodland regeneration to a few individual trees, clumps or patches of scrub.

Peri-urban: area between urban and rural areas (i.e. the outskirts of cities and large towns).

Plantation: woodland where the current trees have been planted. Often also includes naturally regenerating trees. Includes former semi-natural woodlands that have been replanted.

Plantations on Ancient Woodland Sites: a plantation of trees on a site of what was previously an ancient wood (i.e. the original trees have been replaced).

Precautionary principle: the principle that if the consequences of an action are potentially severe or irreversible, the absence of full scientific certainty should not be used to prevent avoidance of harms. This includes the possibility of not taking the action in question.

Protection forestry: forest management where the primary function is the protection of people or assets against the impacts of natural hazards such as snow, avalanches and rock fall. Typically applied in areas such as the Alps, but relatively untested in Scottish conditions for issues such as landslides.

Ramsar sites: nature conservation sites designated as wetland of international significance under the Ramsar Convention, especially as a waterfowl habitat.

Restructuring: phased redesign of the age and species composition of plantations so that they become structurally more diverse forests or woodlands.

Rights of Way: routes along which the public have a right of passage. Must have been used by the public for at least 20 years, must connect two public places, and must follow a more or less defined route. A National Catalogue of Rights of Way (CROW) has been compiled by the Scottish Rights of Way and Access Society (ScotWays), in partnership with Scottish Natural Heritage and with the co-operation of local authorities.

Rotation: life cycle of a plantation from planting to felling, followed by replanting. Typical conifer plantations have a rotation of between 35 and 60 years (i.e. the trees are grown for 35-60 years and then felled and replanted).

Roundwood road miles: mileage of road haulage of roundwood (i.e. unprocessed timber) from forest to wood processor. Best expressed as an index against annual timber production to get a 'per unit' value. Often shortened to 'timber miles'.

Scheduled Ancient Monuments: an ancient monument that is of national importance and has been given legal protection under the Ancient Monuments and Archaeological Areas Act 1979. May include remains from the earliest prehistoric settlements through to the Cold War. The Scottish Ministers are required to maintain and publish a Schedule of such monuments. Historic Scotland administers the legislation. Any works which will lead to damage, demolition, or destruction of the monument, any works of repair, removal or alteration and addition, and any flooding or tipping, require prior permission from Scottish Ministers (scheduled monument consent).

Short rotation coppice: energy crop that usually consists of densely planted, high yielding varieties of poplar or willow. Stems are usually harvested every 3 to 5 years and the coppice stools (stumps) remain productive for up to 30 years.

Short rotation forestry: trees grown on a rotation of between 8 and 20 years.

Silviculture: techniques of tending, regenerating and harvesting woodlands.

Site of Special Scientific Interest (SSSI): sites that represent the best of Scotland's natural heritage and form a network of the best examples of natural features throughout Scotland, Great Britain and the European Union. This formal designation gives legal protection to the site. SSSIs cover about 12.5% of Scotland.

Social enterprises: dynamic businesses with a social purpose working around the UK and internationally to deliver lasting social and environmental change. Well known social enterprises include The Big Issue, the Eden Project, Cafédirect and the Co-operative Group, but there are many other social enterprises operating in a wide range of industries from farmers' markets and recycling companies to transport providers and childcare.

Social exclusion: what can happen when individuals or areas suffer from a combination of linked problems such as unemployment, poor skills, low incomes, poor housing, high levels of crime, bad health and family breakdown. Social inclusion aims to reverse this.

Social justice: fairness, equality and opportunity at both the individual and the area based community level. No one should be disadvantaged by who they are or where they live.

Softwood: timber from conifer tree species such as Sitka spruce, Douglas fir, Scots pine, larch etc.

Special Areas of Conservation (SACs): strictly protected sites designated under the EC Habitats Directive.

Special Protection Areas (SPAs): strictly protected sites classified for rare and vulnerable birds in accordance with the EC Directive on the conservation of wild birds (the 'Birds Directive').

Sustainable development: development that enables all people throughout the world to satisfy their basic needs and enjoy a better quality of life without compromising the quality of life of future generations.

Sustainable forest management: the stewardship and use of forests and forest lands in a way, and at a rate, that maintains their biodiversity, productivity, regeneration capacity, vitality and their potential to fulfil, now and in the future, relevant ecological, economic and social functions, at local, national and global levels, and that does not cause damage to other ecosystems.

Timber miles: see roundwood road miles.

Urban/rural regeneration: social, economic and environmental improvement of areas facing problems of deprivation and social disadvantage.

Wood or woodland: often describes a smaller area of trees. In this Strategy, the terms 'forest' and 'woodland' are interchangeable.

Woodland croft: a croft is a unit of land subject to the Crofting Acts. It is not a house. Woodland crofts range from being mainly woodland to mainly agricultural with a woodland element. They link housing, local rural livelihoods and woodland management.

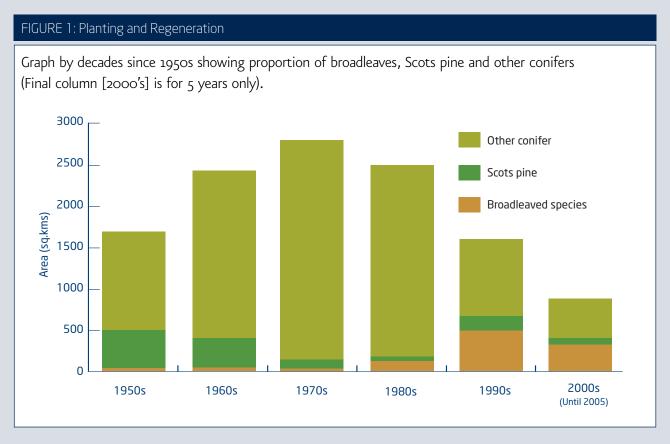
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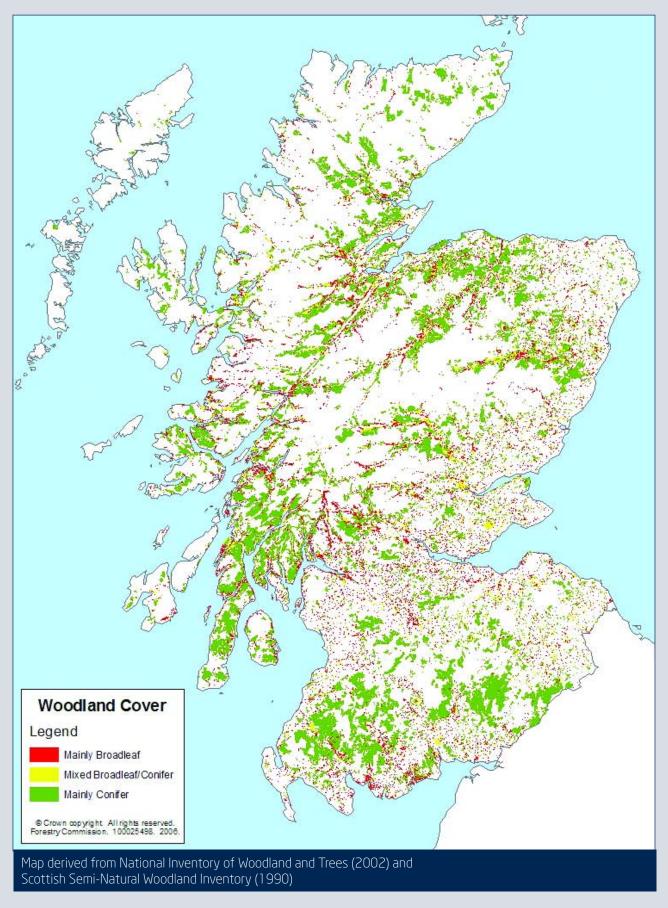
There are now 1.33 million hectares (13.3 thousand square kilometres) of woodland in Scotland, of which 65% is managed by private owners and voluntary, charitable and public sector organisations. Forestry Commission Scotland manages the remaining 35% (known as the national forest estate) on behalf of Scottish Ministers.

Despite excellent conditions for growing trees, Scotland has, for historical reasons, significantly less woodland than many other countries.

TABLE 1: International comparisons of forest and woodland areas		
	Thousands of square kilometers	Percentage of land area
Scotland	13	17.1
UK	28	11.6
EU-25	1,396	36.3
Europe (including Russia)	10,394	46.0
World	38,695	29.6

At the start of the 20th century, total woodland cover in Scotland was just 5%, and less than a third of that was native woodland of semi-natural origin. Today, woodland cover stands at just over 17% of Scotland's land area. The increase is mostly the result of concerted planting efforts over the past 75 years, primarily with introduced conifers such as Sitka spruce, Norway spruce, Lodgepole pine and Japanese larch.





General forestry policy context

At the Rio Earth Summit (1992), the blunt message for economic development was that nothing less than a transformation of attitudes and behaviour, at a global level, was required to halt the destruction of irreplaceable natural resources and pollution of the planet (particularly global warming).

This has been abbreviated to sustainable development, which is defined as: "development that enables all people, throughout the world, to satisfy their basic needs and enjoy a better quality of life, without compromising the quality of life of future generations". Sustainable forest management (SFM) is a key component of sustainable development and the agreements made at Rio, including the Statement of Forest Principles, underpin much of what has followed in forestry.

In the UK, the requirements for sustainable forest management are set out in the UK Forestry Standard. All publicly funded forestry is required to meet these.

Voluntary and independent certification against the internationally recognised UK Woodland Assurance Standard (UKWAS) provides an independent assurance of environmental protection and consideration of the interests of people working in or visiting forests, as well as wider benefits to society. It also enables the products from certified woodland to have appropriate environmental labelling.

UKWAS is the central component of the forest certification programmes operated in the UK by the Forest Stewardship Council (FSC) and the Programme for the Endorsement of Forest Certification schemes (PEFC). By 2006, over 50% of the woodland area in Scotland had been certified, including the whole of the national forest estate.

The European Union (EU) Forestry Strategy sets a framework for co-operation on forestry issues among member states. Its principles relate to sustainable forest management and the multifunctional role of forests. Although forestry in the EU remains the responsibility of member states, many aspects of EU legislation directly affect forestry on matters such as biodiversity, water quality, assessment of environmental impacts and broad land use issues (e.g. the Common Agricultural Policy).

Direct financial support for rural land uses is moving away from 'production' and more to the provision of services. There is also likely to be increasing downward pressure on public finances following the enlargement of the EU. Adding value to forest products, enhancing business opportunities and securing other sources of funding will become increasingly important if forestry is to remain sustainable.

Forestry is the responsibility of Scottish Ministers. Forestry Commission Scotland serves as the Scottish Executive's forestry department, although it is still part of the Forestry Commission Great Britain. It has a statutory duty to achieve a reasonable balance between timber production and environmental issues. The Nature Conservation (Scotland) Act 2004 also introduced a general duty on public bodies to further the conservation of biodiversity as far as it is consistent with the exercise of their functions, to further the conservation and enhancement of SSSIs, and to have regard to the Convention on Biological Diversity agreed at Rio. Social responsibilities are not defined by statute, but are well documented in a range of Scottish Ministers' policy guidelines.

The National Context for the Scottish Forestry Strategy

GENERAL

Forestry Act 1967 (as amended)

Town & Country Planning (Scotland) Act 1997

Scotland's Transport: Delivering Improvements 2002

> Local Government in Scotland Act 2003

A Partnership for a Better Scotland: Partnership Agreement 2003

Scotland's transport future. The transport white paper 2004

National Planning Framework for Scotland 2004

Framework for Economic Development in Scotland 2004

A Smart Successful Scotland: Strategic direction to the Enterprise Networks and an enterprise strategy for Scotland 2004

Modernising the Planning System: White Paper 2005

The Pollution Prevention and Control (Scotland) Regulations (2000) and Amendments (2005)

Planning etc (Scotland) Bill 2005

Gaelic Language (Scotland) Act 2005

Building a Better Scotland: Spending Proposals 2005-2008

Going for Green Growth: a green jobs strategy for Scotland 2005

Scotland's National Transport Strategy: A Consultation 2006

ENVIRONMENT

Ancient Monuments and Archaeological Areas Act 1979

Wildlife and Countryside (Amendment) Act 1985

The Environmental Impact Assessment (Forestry) (Scotland) Regulations 1999

> National Parks (Scotland) Act 2000

The Air Quality Strategy for England, Scotland, Wales and Northern Ireland. Working Together for Clean Air

Wild Deer in Scotland: A long-term vision 2000

Passed to the Future (Sustainable Managemen of the Historic Environment)

2002

Natural Heritage Futures -Farmlands and Forests & Woodlands

The National Waste Strategy 1999

Water Environment & Water Services (Scotland) Act 2003

Securing a Renewable Future: Scotland's Renewable Energy 2003

Scotland's Biodiversity - It's in Your Hands 2004

Nature Conservation (Scotland) Act 2004

Environmental Assessment (Scotland) Act 2005

FREDS - Promoting and Accelerating the Market Penetration of Biomass Technology in Scotland 2005

FREDS - Scotland's Renewable Energy Potential: Realising the 2020 Target - Future Generation Group Report 2005

> Choosing our Future - Scotland's Sustainable Development Strategy 2005

> > Wood Fuel for Warmth 2005

Changing our Ways: Scotland's Climate Change Programme 2006

Making a difference for Scotland's Species: A Framework for Action (2006 Consultation paper)

ACCESS/HEALTH

Disability Discrimination Act 1995

Creating our Future... Minding Our Past. (National Cultural Strategy) 2000

The Education (National Priorities)(Scotland) Order 2000

Let's Make Scotland More Active: a strategy for physical activity 2003

Sport 21 2003-2007: The National Strategy for Sport - Shaping Scotland's Future (under review)

The Lifelong Learning Strategy for Scotland. Life Through Learning; Learning Through Life 2003

Improving Health in Scotland - the Challenge 2003

National Programme for Improving Mental Health and Well-Being Action Plan 2003-2006

Launch of six Closing the Opportunity Gap Objectives (2004)

> Delivering for Health 2005

Decade - A Tourism
Framework for Change
2006

LAND USE

Crofters (Scotland) Act 1993 (currently under review)

Rural Scotland:
A New Approach
2000
(to be succeeded by
Thriving Rural Communities)

Custodians of Change: Report of Agriculture and Environment Working Group 2002

Land Reform (Scotland) Act 2003

Diffuse Water Pollution from Rural Land Use: (Consultation Paper 2005)

A Forward Strategy for Scottish Agriculture: Next Steps 2006

Rural Development Programme for Scotland 2007-2013 The Strategic Plan

Rural Development Programme for Scotland 2007-2013 (Consultation)

A comprehensive overview of the UK, EU, European and world policy context of forestry can be found at www.forestry.gov.uk/sfstopicpapers

Forestry Commission Scotland would be pleased to hear of any ommissions in, or updates to, the references. These can be sent by e-mail to: fcscotland@forestry.gsi.gov.uk

or by post to: The Scottish Forestry Strategy Forestry Commission Scotland, Silvan House 231 Corstorphine Road, Edinburgh EH12 7AT

A summary of Scotland's needs

General Priorities:

- The top priority is economic growth to raise the quality of life in Scotland through increasing economic opportunities for all, on a socially and environmentally sustainable basis; followed by
- jobs, good education, transport, reduced crime and better health; and
- delivered in an integrated way through an innovative and productive economy that delivers high levels of employment, and a just society that promotes social inclusion, sustainable communities and personal well-being. This must be done in ways that protect and enhance the physical, cultural and natural environment, and uses resources and energy as wisely and efficiently as possible. High quality public services must become readily accessible to all.

General Principles:

- People should not be disadvantaged by who they are or where they live ('social justice').
- People should not have to live in degraded surroundings with a poor quality of life ('environmental justice').
- · Everyone should have the same opportunity to enjoy a good quality of life and access to appropriate services ('closing the opportunity gap' and 'social inclusion').

Rural Scotland:

- Acknowledged and valued for its distinctiveness and for its integral part in Scotland's success.
- Recognition that it has different priorities, needs and circumstances from urban areas.
- Rural communities, and particular sections within them, have unique challenges. Interventions need to be sensitive to, and appropriate for, the rural setting.
- Land uses need to be better integrated.

Climate Change:

- Recognition of the overwhelming scientific consensus that the world's climate is changing and that it is the most severe problem we now face.
- A need to tackle climate change through adaptation and mitigation measures.

Opportunities and challenges

Relevance

Forestry is not an end in itself. It must meet the objectives of woodland owners and, when publicly funded, benefit people who live in or visit Scotland, both in the short and long-term. Forestry is as much about people as it is about trees - people to look after them, fund them and benefit from them, either directly or indirectly. The future of our trees, woodlands and forests, and their diverse benefits, will be made more secure by being relevant both today and in the longer-term.

Climate change

Climate change is already happening and is one of the most serious threats facing the world today. In Scotland, the profile of climate change has been raised by: the review of the UK and Scotland's Climate Change Programmes; the biomass report of the Forum for Renewable Energy Development in Scotland; the Scottish Parliament's Environment & Rural Development Committee report on climate change; and the Wood Fuel for Warmth report by the Sustainable Development Commission in Scotland.

The EU has recognised that as well as significantly reducing overall demand for energy it also needs to break its dependence on fossil fuels, with biomass being one of the main alternatives.

The UK and Scotland have a number of commitments to address climate change:

- the UK's obligation under the Kyoto Protocol is to reduce greenhouse gas emissions by 12.5% by 2008-2012 compared with 1990 levels. The recently published UK Climate Change Programme (UKCCP) is designed to deliver this target.
- The UK Government has set a more ambitious domestic target to reduce CO2 emissions by 20% below 1990 levels by 2010, with a longer-term goal to reduce CO2 emissions by some 60% by around 2050. The UKCCP aims to put the UK on a path to the latter, with real progress by 2020.
- Changing Our Ways Scotland's Climate Change Programme quantifies Scotland's equitable contribution to the UK climate change commitments by means of the Scottish Share. It also commits Scotland to delivering more than this share by setting an ambitious Scottish Target.

The Scottish Share

1.7 million tonnes of carbon in annual savings by 2010

The Scottish Target

To exceed the Scottish Share by 1million tonnes of carbon in 2010

Helping adapt to and mitigate climate change will be a key role for forestry in Scotland over the foreseeable future. It can contribute to this through:

- adaptation by planning and managing woodland ecosystems to minimise the harmful impacts of climate change;
- mitigation by reducing emissions (where wood fuel substitutes for fossil fuels), by substituting timber and wood products for energy intensive materials such as concrete and steel, by providing locations for appropriate renewable energy projects, and by energy conservation measures in forest industries;
- carbon sequestration by locking-up carbon during the growth of biomass, and through the conservation of other major carbon sinks (stores), particularly peat bogs and soils; and
- education/engagement by increasing people's awareness of climate change and the actions they can take to help, and by encouraging local use of woodlands to reduce travelling.

Scotland's Climate Change Programme includes a carbon savings contribution from the forestry sector towards the Scottish Target:

Forestry's contribution to Scotland's Climate Change Programme				
Annual carbon savings contribution	Delivered by:			
0.6 million tonnes of carbon by 2010	 afforestation biomass as a renewable energy source wood as a substitute for energy intensive building materials timber miles (reduction of road transport of roundwood) 			
0.8 million tonnes of carbon by 2015				
1.0 million tonnes of carbon by 2020				

Sustainable development

A measure of the impact of the resources we are using is our 'ecological footprint'. In 2001, each person living in Scotland had, on average, an ecological footprint 2.4 times the global average. The footprint of the EU-25 countries was 2.2 times the global average.

Choosing our Future - Scotland's Sustainable Development Strategy sets out a vision for Scotland, based on achieving a strong economy while maintaining our rich natural resources and sustaining thriving communities. It identifies four key priorities:

- Sustainable consumption and production: achieving more with less to reduce our global footprint.
- · Climate change and energy: securing a profound change in the way we generate and use energy, and reducing greenhouse gas emissions.
- Natural resource protection and environmental enhancement: protecting our natural resources, building a better understanding of environmental limits, and improving the quality of the environment.
- Sustainable communities: creating communities that embody the principles of sustainable development locally.

A Partnership for a Better Scotland: Partnership Agreement has an overall aim of promoting sustainable development. It identifies economic development, and the delivery of public services, as key priorities across Scotland.

Economic growth, to raise the quality of life of the people of Scotland, is the Scottish Executive's top priority, but done in a way that is sustainable and which breaks the link with environmental damage. Such 'green growth' can create new opportunities for employment ('green jobs') based on new technologies or business directions, such as renewable energy, sustainable construction or ecotourism.

Forestry has the potential to be an exemplar of sustainable development by demonstrating:

- how it contributes to a strong, stable and sustainable economy;
- that our woodlands, together with their associated habitats, are managed within their environmental limits; and
- how forestry can help deliver a strong, healthy and just society.

And achieving this by:

- providing opportunities for people to be fully engaged in their local forests through effective systems to involve all levels of society; and
- basing decisions on sound scientific evidence, while taking in to account scientific uncertainty (through the precautionary principle), as well as public attitudes and values.

Naturally Wood - A Sustainability Strategy for the UK forest industries sector is a statement of commitment to delivering sustainable development. It was produced in support of the World Summit on Sustainable Development, held in Johannesburg in 2002.

Economic development

A strong and sustainable economy is critical to the long-term success of Scotland. A Smart, Successful Scotland aims to raise the long-term, sustainable growth rate and productivity of the Scottish economy through growing businesses, global connections, learning and skills. It is underpinned by the Framework for Economic Development in Scotland which confirms that growing the Scottish economy is the top priority and reaffirms that "economic development should raise the quality of life of the Scottish people through increasing economic opportunities for all, on a socially and environmentally sustainable basis."

The Lisbon Strategy for Jobs and Growth: UK National Reform Programme is based on two key aims of delivering stronger, lasting growth and creating good quality jobs in an environmentally sustainable way. The Scottish Executive is committed to delivering strong economic performance and employment growth, in keeping with the UK position on economic reform.

Managing forests in a sustainable manner will not be possible if the sector as a whole is not economically viable. Markets for environmental services are growing, but wood and wood products will remain the major source of direct income for many owners and are often the primary motivation for woodland management in

the private sector. However, many of the outputs from forests are indirect or 'public goods' - such as landscape enhancement, biodiversity, or social justice. Where there is market failure, other policy instruments, such as grant support, may be required to ensure their delivery.

Scottish Tourism - The Next Decade sets out the importance of tourism - Scotland's biggest business - and emphasises the need for business entrepreneurship, product development and innovation. The wider Scottish tourism industry employs more than 200,000 people, contributes about £4.2 billion to the economy each year, and has ambitious plans for growth (a 50% increase in tourism revenue by 2015).

Woodlands contribute to the vital landscape backdrop to tourism and help to support it through the provision of outdoor recreation facilities. Forest tourism alone is worth over £160 million each year to the Scottish economy. A key challenge is to find appropriate ways to generate further financial returns to woodland owners from tourism, to help with the cost of maintaining and enhancing the woodland resource.

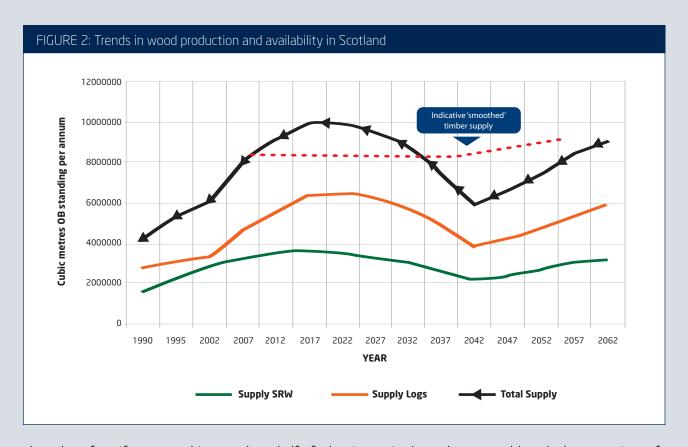
Field sports such as deer stalking and fishing, which generate over £200 million each year for the Scottish economy, represent important economic assets for woodland owners. Venison income can also help offset some of the costs of deer management.

About 7,600 jobs are provided directly by forestry in Scotland and another 3,100 in the primary wood processing industry. Between 1999 and 2003, forest employment rose at a faster rate than any of the other primary rural industries (source: Annual Business Inquiry 1999-2003), with most of this linked to increasing timber production. Private sector investment in the industry has continued at about £60 million each year over the last 15 years. Forestry and wood processing also contribute about £650 million each year to the Scottish economy, or about 1% of Gross Domestic Product (GDP).

Scotland can provide a sustainable supply of certified timber. In 2000, 5.5 million m3 of wood was harvested. Current forecasts indicate the potential for a continued rise in timber production from the 2005/06 level of almost 7 million m³ (about 60% of the UK total), to a peak availability of about 10 million m³ in the mid-2020s (as the extensive afforestation of the 1970s and 1980s matures).

The Scottish Forest Industries Cluster, formed in 2000 and now a partnership between Scottish Enterprise and the Confederation of Forest Industries (UK) Ltd (ConFor), has been very successful in continuing to capture the opportunities presented by this growth in timber availability. Recent investments in wood processing, coupled with new investment proposals, including wood fuel, offer a market for these increased volumes of (mainly coniferous) wood. However, following the peak of timber availability, it would then fall back to about current levels by 2050 due to the significantly reduced levels of coniferous afforestation over the past 15 years.

Wood processors require a consistent and reliable supply of timber if they are to continue to invest in the industry. There is, therefore, a real business need to 'smooth' the supply of timber from Scottish forests to avoid this potential peak and trough of timber availability. This will require a combination of better long-term planning and production forecasting, the prudent use of the national forest estate's timber resource, and incentives for delaying or advancing felling. This will also facilitate the phased restructuring of plantations.



The value of coniferous wood is now about half of what it was in the early 1990s, although there are signs of an improvement. This has reduced the profitability of forestry and the ability of the sector to invest in the future (whether for timber or for environmental and social aims). However, in the longer-term, rising oil prices, climate change, international instability, energy security and the global sustainability agenda, point to the benefits of having a significant home based timber resource, provided this is of sufficient quality and diversity to facilitate a wide range and scale of business opportunities.

Wood processing requires high levels of investment, technological development and consistency of raw material in terms of supply and wood properties, if it is to remain competitive within international markets. However, enhancing local economic performance is also important and complements, rather than competes with, larger-scale timber utilisation. Examples include the production of high quality softwood timber (e.g. (from Sitka spruce, Douglas fir, Scots pine and European larch), the production of wood fuel, and opportunities to develop the hardwood and non-timber forest products sectors.

Timber haulage remains a major challenge. It is often the single biggest cost in the roundwood supply chain, has the potential to impact significantly on communities, and can damage weak, minor public roads. Co-operative working between the industry, local authorities and local communities, for example through the Regional Timber Transport Groups, is helping to identify and resolve problems. On the wider sustainability agenda it remains an objective to reduce 'roundwood road miles' relative to overall timber production, either by using sea and rail transport, or by developing local processing capacity, particularly for lower-value products.

Delivering the full benefits of multifunctional forestry requires well trained managers and supervisors. This is a key role of the universities, the Scottish School of Forestry and other higher education establishments.

A skilled, properly equipped workforce is also essential. Enhancing job quality by skills development, and integrating with agricultural work to supply year-round, stable local employment, are two potential opportunities. However, the cost of training is seen as a significant barrier for small forestry businesses, particularly with the current rates of staff turnover. It will be important to address this.

The forestry sector faces a number of economic challenges if it is to increase its contribution to sustainable development in Scotland. These are:

- adding value, in Scotland, to wood as a raw material through product innovation and market penetration (particularly in the construction sector);
- maintaining timber production at a sustainable level and with confidence in the consistency and quality of the raw material;
- improving efficiencies in the supply chain to enhance financial, social and environmental outputs;
- diversifying the economic potential of forestry so that it is capable of delivering more benefits locally, as well as contributing to our national timber needs;
- ensuring that woodlands planted, or managed, mainly for timber production are well designed and capable of bringing significant, additional social or environmental benefits to the local area; and
- ensuring that people undertaking forestry work have the employment conditions, knowledge, skills, equipment and motivation to meet the demanding safety and environmental standards of the industry, at a competitive cost.

Rural development

Rural areas in Scotland account for 98% of Scotland's landmass and 19% of the population. It is not a single entity and considerable variation exists, particularly between remote rural areas and those close to urban centres. Rural areas include pockets of severe deprivation.

The current approach to rural policies in Scotland is set out in Rural Scotland: A New Approach - prepared in 2000, but being refreshed in 2006. It identified four main priorities:

- supporting economic development;
- providing opportunities for young people;
- improving access to high quality public services; and
- · sustaining and making the most of our natural and cultural heritage.

In 2002, Custodians of Change set out the priority environmental issues for Scottish agriculture over the succeeding 5-10 years: diffuse pollution to water; biodiversity and habitat protection; and landscape change. It also highlighted the need for integrated land use decisions, sustainable rural development and the opportunities presented by the midterm review of the Common Agricultural Policy.

A Forward Strategy for Scottish Agriculture: Next Steps (2006) recognises that forestry offers potential opportunities for agricultural diversification.

The EU regulatory framework for supporting rural development between 2007 and 2013 is provided in the Rural Development Regulation (RDR) (1698/2005). It is based on four measures (Axes):

- Axis 1 improving the competitiveness of agriculture and forestry by supporting restructuring, development and innovation;
- Axis 2 improving the environment and the countryside by supporting land management;
- Axis 3 improving the quality of life in rural areas and encouraging diversification of economic activity; and
- Axis 4 the LEADER initiative. This aims to enhance the role of the 'bottom-up', community based approach to rural development, with the central principles of innovation, co-operation, capacity building and improved local governance.

These priorities will be reflected in the Rural Development Programme for Scotland 2007-2013 Strategic Plan and the associated Rural Development Programme 2007-2013 (which is currently under consultation).

The future priorities for forestry's role in rural development are:

- supporting economic development and the creation of green jobs by encouraging investment in a broader range of complementary, large-scale and small-scale forestry related businesses;
- creating and maintaining attractive, diverse woodlands capable of adapting to future climatic and economic uncertainties;
- helping to achieve significant rural diversification through integration with other land uses, including the piloted use of agroforestry, a wider range of business opportunities, and the nurturing of transferable skills to provide year-round, quality local employment;
- securing community engagement and empowerment to achieve additional, tailored local benefits, including sites for affordable housing and other appropriate types of development (see Scottish Planning Policy 15: Planning for Rural Development); and
- using woodlands and their associated historic environment to enhance local identity and 'sense of place'.

The wider social agenda

The wider social agenda is about tackling inequalities, ensuring everyone has the same opportunities in life ('closing the opportunity gap') and raising the quality of life for all - both now and in the future. Current inequalities are caused by a number of factors including: poor housing; degraded local environments; unemployment; low income; fuel poverty; poor mental and physical health; disability; age; and a lack of appropriate education.

A Partnership for a Better Scotland gave commitments to 'Close the Opportunity Gap', these encouraging a flexible approach to the regeneration of Scotland's most deprived communities.

Forestry can make a significant contribution to the wider social agenda. The naturally therapeutic sights, sounds and smells of woodland help to reduce stress, and are an inexpensive way to encourage people to get active. Degraded local environments can be transformed by well designed woodland - adding to local identity

and creating a sense of pride. The social agenda is also about working with people and communities to encourage and equip them to influence their own lives. Forestry can be an important entry point for community 'empowerment' and 'capacity building' by engaging people in the design and management of local woodlands. This builds community confidence and ability, and can help to secure public benefits at best value to the taxpayer.

The Forestry for People Advisory Panel was formed in 2000 as a response to the first Scottish Forestry Strategy. It has advised Forestry Commission Scotland on: optimising the benefits from forestry for local communities, especially in rural areas; stimulating greater community involvement in forestry; and developing and disseminating best practice in the encouragement and management of community involvement. The Panel's final report in 2005 concluded:

"People are now very much at the heart of Scottish forestry - with forestry demonstrating a clear ability to effectively deliver and support a wide range of important public benefits. There is also an ever increasing desire from individuals and communities to engage positively in forestry and realise the benefits and opportunities that forestry can offerwithin rural and urban areas."

Forestry can achieve significantly more in the wider social agenda. However, against a background of reduced financial returns from timber over the last 10 years, funding such work will be a significant challenge across the forestry sector. The sector also needs to be proactive in communicating to relevant organisations (such as Community Planning Partnerships) its capacity to work in partnership to deliver wider goals cost-effectively and quickly.

Water, air and soil

Maintaining or enhancing soil, water and air quality is fundamental to the principles of sustainable forest management. This extends to its role in providing wider environmental services, such as catchment-scale flood management benefits.

Soils are an irreplaceable resource. The broad need is to address the primary risks to them, i.e. erosion, contamination, compaction, sealing and loss of organic matter. Climate change is likely to have profound implications for soil management.

In the past, many woodlands were planted too close to watercourses and with ploughing techniques that accelerated run-off and sedimentation. That fuelled an impression that forestry is bad for water quality but the opposite is the case, provided good forest design and practice are implemented. This, in turn, can have real economic benefits, for instance in relation to fishing. With climate change, the potential economic and social benefits of riparian and flood plain woodlands, combined with sensitive forest management practices, have never been greater. However, it will be important for people involved in land use to work together in an integrated way. The Water Environment and Water Services (Scotland) Act 2003 provides a mechanism for this through the development of River Basin Management Plans.

All types of woodland intercept more airborne pollutants than other types of vegetation because of their canopy structures. This is a good thing in towns and cities because it can help to improve local air quality, and has benefits in terms of wind and noise reduction. However, where woodlands occupy a significant proportion of vulnerable water catchments, those canopies also capture pollutants emitted by power stations, industry and transport. This can then exacerbate acidification of watercourses and water bodies, and remains an important ecological and economic issue (e.g. in relation to fishing) in parts of central and south-west Scotland.

The decline in pollutant emissions over the past 20 years has led to improvements in many water bodies. However, as a precaution, any new planting or replanting proposals in catchments at, or likely to exceed, their 'critical load' now require detailed discussions with the Scottish Environment Protection Agency to determine whether to proceed.

As with all land use activities, forestry operations can impact directly on soil, water and air resources if work is not carried out to the appropriate standards (as described in the relevant Forest Guidelines). Waste management in forestry and the wood processing sector is also an increasingly important consideration, both in terms of environmental credentials and business efficiency.

Enhancing biodiversity

The Convention on Biological Diversity and the 6th European Environmental Action Programme (Gothenburg) committed the UK to the conservation of biological diversity.

The countryside is part of our national identity and safeguarding it makes good economic sense. Scotland's nature supports, directly, almost 93,000 jobs, and generates £2.2 billion each year for the economy. However, and despite considerable conservation effort, biodiversity continues to decline in the UK, mainly due to the effects of habitat fragmentation and inappropriate land management. Scotland's Biodiversity - It's in Your Hands (the Scottish Biodiversity Strategy) maps a 25-year framework of action to conserve and enhance biodiversity for the health and well-being of people in Scotland. The Scottish Forestry Strategy seeks to help reverse the decline in biodiversity by supporting such action.

Native woodlands

Scotland's ancient, semi-natural woodlands are some of our most diverse ecological systems. But they are now a fragment of what used to be our natural forests and cover just 1% of our land area. As an indicator of sustainable forestry and an irreplaceable habitat, it is important to maintain their area and safeguard their condition.

TABLE 2: The distribution of different types of native woodland in Scotland					
Woodland Type	Estimated Area ('000 hectares)		Percentage of native woodland area		
	Total	Semi-natural	Total	Semi-natural	
Upland birchwoods	90.0	(74.0)	23.0	(19.0)	
Upland oakwoods	50.0	(35.0)	13.0	(9.0)	
Native pinewoods	181.0	(31.0)	46.0	(8.0)	
Upland mixed ashwoods	21.0	(14.0)	5.5	(3.5)	
Wet woodlands	21.0	(14.0)	5.5	(3.5)	
Lowland mixed broadleaved	28.0	(10.0)	7.0	(2.5)	

A sample of the very best of our ancient woodlands has statutory EU and UK designations to protect them. Commitments to maintain or restore their favourable ecological condition, and to expand them, are set out in the UK Biodiversity Action Plan and the Scottish Biodiversity Strategy. There are also Habitat Action Plans for the principal native woodland types and a range of other nationally, or locally, important habitats. Between 2000 and 2006, a further 9,500 hectares of native woodland in Scotland were created or restored through planting or natural regeneration.

Almost 50% of the ancient woodland resource consists of 'Plantations on Ancient Woodland Sites', where the priority is to protect the remaining ancient woodland communities and then expand them at an appropriate scale and rate of change.

There is considerable potential to increase the range of social and economic benefits from native woodland without compromising their ecological value.

Other woodlands

Other types of woodland in Scotland also have a significant role in enhancing biodiversity. Improving the woodland structure and composition (through restructuring) of many of the plantations established in the second half of the last century improves their value for wildlife, their appearance for visitors, and their capacity to produce a sustainable supply of timber or wood fuel. There is also merit in broadening the multifunctional role of some broadleaved and native woodlands, including their capacity to produce a sustainable supply of timber, where this is unlikely to compromise their conservation value. Biodiversity can also be enhanced by the way woodlands are managed, for instance when low impact methods of felling and regeneration are used.

Ancient and veteran trees

Ancient or veteran trees, both individually and as concentrations in woodland, historic parkland and pasture woodland, are of particular importance for nature conservation (in the same way that ancient, semi-natural woodland is recognised as an irreplaceable habitat of high value for biodiversity). They are also important features that define and characterise particular landscapes, and are powerful cultural icons in Scottish society and tradition.

Other habitats/species and natural heritage features

Threatened, rare and internationally important species and habitats remain a top priority for biodiversity conservation in Scotland, and many have legal protection. The UK Biodiversity Action Plan and the Scottish Biodiversity Strategy also contain commitments via Species Action Plans and Habitat Action Plans. Local Biodiversity Action Plans take these a stage further by proposing action for regionally and locally important species and habitats.

The Scottish Forestry Strategy seeks to maintain, and where possible enhance, priority species, habitats and sites to help meet the Scottish Executive's commitments to biodiversity. In some cases this may even justify woodland removal, for example on high quality blanket or raised bogs, or where significant species benefits can be realised.

Genetic conservation in our native tree and shrub species is likely to become even more important as we try to adapt to climate change. The starting point is to improve understanding of the genetic resources in existing populations and to determine the presence of, and variation in, adaptive traits. Maintaining genetic diversity is likely to be an important adaptation requirement, as is the need to use planting stock suited to local conditions, both now and in to the future.

Protecting woodlands and biodiversity

An appropriate level of grazing and browsing helps to maintain woodland biodiversity. However, in parts of Scotland, grazing and browsing pressure, primarily by deer, but also by sheep, has been too high to fulfil forest management objectives or to sustain the desired range of woodland habitats.

Effective deer management has started to address this issue and, in some areas, deer densities are now more in balance with management objectives. Elsewhere, the use of boundary deer fencing has been controversial but necessary, particularly where adjacent land uses (such as sporting estates) retain higher deer densities to fulfil their management objectives. There are no easy solutions, but collaborative deer management across the relevant deer range, and to an agreed Deer Management Plan, is most likely to produce long-term solutions.

Protection against domestic stock, rabbits and (in some areas) grey squirrels may also be required for either timber production or biodiversity reasons. Conversely, there is growing interest in the use of grazing by livestock (mainly cattle) to create and manage ground flora diversity in certain types of native woodland. Sheep may also have a role in the conservation of the historic environment on open ground.

Making the connections

A key aim is to strengthen the role of natural processes in Scotland's woodlands. This means taking action for individual species, habitats and special sites, and undertaking landscape-scale restoration and expansion of habitat networks. The uncertainties of climate change give added impetus to this objective.

Enhancing the historic environment

Our historic environment and biodiversity have been intimately linked over thousands of years. Much of what we see in Scotland has been influenced by human hand (the 'cultural landscape'), and the design and management of forests needs to be sensitive to such local identities.

In addition to Scheduled Ancient Monuments and Listed Buildings (which are protected by law), more than 238,000 sites are recorded in the National Monuments Record for Scotland and countless more have yet to be discovered. The historic environment is all around us. It enriches our lives and the lives of people who visit Scotland.

Considerable improvements have been made in the way that the historic environment is protected in Scottish woodlands, but there has been less progress in active management to secure and enhance its condition for future generations. Good interpretation, coupled with creating an appropriate setting for features, can also enhance the recreational interest of woodland and help develop a better appreciation and understanding of the historic dimension and character of the present landscape. This can help to develop a 'sense of place', with economic spin-offs for tourism and rural development. The sensitive restoration of some buildings and sites, using traditional materials, could also help stimulate local crafts and increase the demand for quality wood that is both stable and durable.

There is also scope to broaden the perception of the historic environment and cultural heritage. Historic routes (such as drove roads) and veteran, ancient or heritage trees (e.g. Perthshire Big Tree Country) attract considerable interest and can help to establish a link between people, places and woodland. The work of the famous plant collectors of previous centuries has continuing value for genetic conservation in other countries and is also of special interest in terms of land use history. Some of our finest views are founded on historic land uses, gardens and designed landscapes. Our heritage woodlands, including pasture woodlands, can tell us a great deal about the past - and perhaps also the future.

Our concept of cultural heritage need not be constrained by age. 'Living culture', such as the performing arts or woodland sculpture, enhances visitor experiences as well as creating a link between communities and their local woodlands. This can help to develop familiarity with forestry, with woodlands becoming an even greater source of local pride and income.

Landscape

The UK Government is a signatory to the European Landscape Convention. This encourages public authorities to adopt policies and measures at local, regional, national and international level for protecting, managing and planning landscapes. In Scotland, this is delivered through mechanisms such as Landscape Character Assessments, Indicative Forestry Strategies, Local Forestry Frameworks, a range of landscape designations such as National Scenic Areas, and the UK Forestry Standard and its associated suite of Forest Guidelines.

Rural

Scotland's scenery is internationally recognised and is judged one of its top attractions by 95% of tourists. The interaction between forests, water and open hills (particularly heather moorland), coupled with its historic context, helps make Scotland special. But our landscape is dynamic. It has been shaped by human activities over thousands of years and that process will continue. Given forestry's visibility in the landscape, care is needed to manage the pace and direction of change, and in communicating those changes.

Forests will be around for a long time. For that reason, good design is critical. Forestry must reflect the essential principles of good landscape design by:

- reflecting the diverse character, distinct identity and special qualities of the Scottish landscape;
- enhancing the quality of the Scottish forest landscape including careful attention to the design of buildings, tracks (including, where appropriate, their subsequent restoration) and other forest artefacts; and
- respecting the geodiversity and cultural value of Scottish landscapes.

Managing change, particularly where timber production is an important aim, is critical throughout the forest cycle. Clear felling, for example, can result in profound and rapid changes to landscapes. The challenge is to design the felling phases and the replanting proposals so that this restructuring is as beneficial as possible and reflects the underlying characteristics of the landscape. This process is well under way in Scotland's older forests, and gives an opportunity to diversify them by careful attention to the scale, shape, boundaries and sequence of felling. This, in turn, gives opportunities to replant or regenerate with different tree species, improve watercourses, create more open space or restore wetlands, develop deer glades, enhance historic features and landscape character, restore Rights of Way and improve other access facilities. It also offers opportunities for ambitious, landscape-scale woodland restoration and the enhancement of forest habitat networks.

Conversely, there are circumstances, such as the restoration of native woodland, where clear felling would only rarely be consistent with management objectives. There will also be landscapes where people's reactions to any change will be so strong that low impact forest management systems would be more appropriate. Such systems are more limited in windy and wet conditions, but there is scope for expanding this type of woodland management in Scotland. It is recognised that the initial developmental costs of conversion to such systems can represent a significant extra cost to woodland owners.

The process of managing landscape change is delivered primarily through long-term forest plans. With a strong commitment to consultation and community engagement, these are helping to unlock the full potential of forestry to deliver a wide range of benefits, including good landscape design.

Urban

The majority of the Scottish population live in towns and cities. Here, trees and woodland can to help to transform degraded local environments, provide areas for stress free walking and relaxation, and develop pride and a sense of place.

Woodlands can transform brownfield sites, often leading to renewed interest for business relocation or new housing. Far from constraining future uses, woodlands can provide a low cost and adaptable green infrastructure for sustainable development. Proposed new planning legislation, and minimum standards for open space, enhance the opportunities for woodlands to contribute to quality of life, physical and mental health, and a greater sense of community spirit.

The design and location of woodlands, as networks for people and wildlife close to communities, will depend on many organisations and people working closely together to maximise the benefits of 'greenspace' networks and their links to wider habitat networks in peri-urban areas. It will be vital to engage with the planning process to ensure the positive use of planning powers, and to establish constructive relationships with developers to help create new woodland frameworks associated with development.

There is also significant potential to further develop the relationship between local authorities (as the major owner of urban woodlands) and Forestry Commission Scotland in the best value delivery of social objectives through woodland creation and management. Local people need to be at the heart of this process because they have the greatest stake in their neighbourhoods. There are also additional spin-offs - less vandalism, less fear of crime, greater use by all sectors of society, and the development of transferable skills and potential job opportunities.

Health, enjoyment and learning

Woodlands are nature's own health service. They are restorative environments where even individual trees can be of meaning and value to local people. Woodlands, and the access opportunities they present, have a significant role in health improvement. Some 50% of all adults in Scotland have visited woodlands for walks, picnics or other recreation. One in five of all outdoor visits are to woodland sites. They are robust environments for outdoor activities, with the capacity to absorb large numbers of people while still maintaining a sense of tranquillity and freedom from crowds. The potential range and scale of opportunities is high, as demonstrated by the phenomenal growth in mountain biking, which gained Scotland "global superstar" status from the International Mountain Bicycling Association. There is significant potential to help develop other forest based, world-class sporting facilities.

Statutory access rights through the Land Reform Act and the Scottish Outdoor Access Code are now in place. These rights come with responsibilities for land users and land managers, and forestry needs to meet the challenges and opportunities this brings. Just as this legislation seeks to develop a seamless outdoor experience, the integration of the Scottish Forestry Grants Scheme with Land Management Contracts will present a joined up incentives scheme, improving opportunities for recreation and access provision across land ownership boundaries.

Ensuring the requirements and aspirations of the Disability Discrimination Act are met for physical and intellectual access to forests - and the appropriate facilities maintained - is a challenge for the future. There is also a need to make woodland visits relevant to a wider audience by extending the breadth of opportunities.

There is also a need to develop a better understanding of forestry's current contribution to all ability access and the 'barriers' that prevent many sectors of society from accessing woodland. This will require new skills development among people involved in forestry, the provision of new woodlands closer to where people live,

and simply using existing woodlands to better advantage. In turn, this will require a more businesslike approach to measuring the economic and social gains for the local, as well as the national, economy.

Enjoyment is not just about providing facilities and opportunities. It is also about nurturing and developing lifelong interest and knowledge, reconnecting people with their forests (creating a forest culture of understanding and respect), and using woodlands as 'natural classrooms' for people to explore new sights, sounds and experiences, in a naturally therapeutic environment. Good interpretation can be the key to unlocking this potential and there is now a wide range of cost-effective technological solutions to excite and challenge people's perceptions.

Woodland enjoyment also embraces education as a route to improving the life chances of young people. Woodlands encourage children's innate desire to learn and provide a safe, sheltered environment for healthy exercise, with clear linkage to the Scottish Executive's ambitions through Active Schools. Children and young people with learning or behavioural difficulties respond well to the therapeutic atmosphere of woodlands, and education providers can use this to help combat social exclusion. The Scottish Forestry Strategy seeks to bring together people who own or manage woodland and people with the skills to unlock its educational potential.

The Framework for Economic Development in Scotland and A Smart Successful Scotland confirmed that skills enhancement in the Scottish workforce, and lifelong learning, are at the heart of developing our international and national competitiveness. They are also key components of sustainable forest management.





Forestry Commission Scotland serves as the forestry department of the Scottish Executive, and is responsible to Scottish Ministers. It led the Strategy review and was supported by a Steering Group of representatives from: the Scottish Executive; Scottish Natural Heritage; Scottish Environment LINK; The Confederation of Forest Industries (UK) Ltd; the Forestry for People Advisory Panel and the Scottish Forest Industries Cluster.

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Published by - Forestry Commission Scotland ISBN - 0 85538 705 X © Crown Copyright 2006

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Designed by Design and Interpretative Services, Forestry Commission Scotland, Edinburgh
FCFC101/FC-S(DIS)/AL-5K/SEPT06