



BUSINESS AND BIODIVERSITY – A GOOD PRACTICE GUIDE

(WITH PARTICULAR REFERENCE TO
IDENTIFYING OPPORTUNITIES IN SCOTLAND)

The following is a Draft document about businesses' engagement with biodiversity in Scotland, submitted to scottish natural heritage (SNH) in March 2003

Earthwatch **engages** people worldwide in scientific field **research** and **education** to promote the understanding and action necessary for a sustainable environment.

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EXECUTIVE SUMMARY

Biodiversity is a core component of sustainable development and a key issue for responsible business operations. It forms a critical ingredient into the productivity and outputs of the global economy and forms a pillar for the quality of life of people across the world. In 1992 the Convention on Biological Diversity was drawn up recognising the importance of the diversity of the world's natural resources and ecosystems and establishing three fundamental objectives:

- Conservation of Biodiversity
- Sustainable use of biological resources
- Equitable sharing of biodiversity benefits

The conservation of Scotland's biodiversity is being led by the multi-stakeholder Scottish Biodiversity Forum (formerly Scottish Biodiversity Group) which works in partnership with the Scottish Executive on the Biodiversity Strategy. This strategy lays down a 25-year vision for biodiversity in Scotland in order to:

- Halt the loss of Scotland's biodiversity and improve the status of Scotland's priority species and habitats;
- Raise awareness of the many benefits of biodiversity by significantly increasing the number and range of people contributing to its conservation and enhancement

People's dependence on biodiversity means that they have used and changed biodiversity considerably over time resulting in a decline of overall diversity as well as specific species. Scotland's biodiversity today is very different from what it would have been in its natural state.

However, signs of the positive effects on biodiversity are emerging where action has been taken to stop damage to ecosystems, reduce pollution and restore habitats. The process has been helped through a wide range of organisations and institutions across Scotland, including businesses which can, through their pivotal roles as land managers, purchasers of goods and services and employers influence the way in which biodiversity is managed.

This publication highlights how businesses can and do work towards reducing and reversing these trends. Specifically, this report:

- Provides an overview of the business case for biodiversity in Scotland
- Identifies key issues for six leading industry sectors
- Outlines practical steps that companies in these sectors can undertake
- Lists resources and contacts which can provide further information and help

Many companies across Scotland contributed through case studies, advice and suggestions giving insights into practical measures which any company, no matter how large or how small, can take to begin making a difference to biodiversity and consequently sustainable development in Scotland.

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Earthwatch is an international environmental organisation which is committed to conserving the diversity and integrity of life on earth to meet the needs of current and future generations.

Earthwatch engages people worldwide in scientific field research and education to promote the understanding and action necessary for a sustainable environment. Through our programmes and partnerships we:

- **engage** people from diverse countries, cultures and organisations, inspiring them to take responsibility for the environment
- support objective scientific **research** which informs decisions on important environmental issues
- **educate** and motivate people to change their attitudes and behaviour

As part of its mission, Earthwatch has active programmes of work with the business community both in the UK and internationally.

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I. INTRODUCTION

Scotland's economy has been growing at an average annual rate of 1.73% since the end of 2001. Bolstered by growth in both service and manufacturing sectors, this economic growth is a leading factor contributing to employment, business opportunities and the quality of life in Scotland. Economic vitality depends on a framework where society and the environment are linked in to providing the infrastructure, support and market for development. This view, that Scotland's economy must develop while ensuring that the environment is protected has been upheld by the Scottish Executive, which recently published its vision of economic development through increasing economic opportunities for all on a socially and environmentally sustainable basis.¹

The success of businesses, of more than 2 million jobs and the quality of life in Scotland relies on a healthy and sustainable framework supported by a strong economy. Economic success also depends on being competitive in Scottish, UK and overseas markets. This translates into successfully integrating the competitive elements of Scotland's society and environment into business. Leading industries in Scotland capitalise on this competitive advantage. One of Scotland's greatest economic assets is its biodiversity – or wildlife, plants and ecosystems – which supply ingredients for world-famous products such as salmon, game, wool and crafts. Businesses involved in food and drink, retail and tourism use the Scottish countryside to market their products internationally.

Furthermore, the healthy and stable environment which companies rely on for their businesses to survive is provided by biodiversity. While much business activity is associated with urban and built up environments, in actual fact much economic activity in Scotland takes place in and relies on rural areas. For instance, around 15% of Scotland is forest, accounting for over 40% of Britain's lumber production. Forests also play a substantive role in the tourism industry, contributing around £ 163 million to the Scottish economy.² Three out of every five tourists choose to visit Scotland for its natural beauty and wilderness, providing some 30,000 jobs and contributing almost £300 million to the Scottish economy each year through wildlife and walking holidays.³

Natural resource businesses like quarrying, agriculture, fishing, and water management are all about managing the ecosystem. Companies in these sectors need to show that they have the smallest possible footprint – or impact – on the natural environment through demonstrating improvement to biodiversity or minimizing their impacts. For companies in these sectors sustainable business is all about managing resources to sustain natural

¹ Scottish Executive. 2002. *The Way Forward: Framework for Economic Development in Scotland*. <http://www.scotland.gov.uk/library3/economics/feds-02.asp>

² Forestry Commission. 2003. *Forest's Role in Tourism*. <http://www.forestry.gov.uk/economics>

³ Reynolds, J. 2003. Wildlife blueprint boost for tourism. *The Scotsman*. 26 February 2003: http://www.leisure.scotsman.com/outdoors/headlines_specific.cfm?articleid=7340

systems and cycles and preventing the depletion of the very resources on which the businesses depend.

Manufacturing and heavy industry, which make up an important part of Scotland's industrial history, also have significant direct links with and impacts on ecosystems through their facilities, as well as in the way in which they use and process resources and dispose of effluents and waste. One of Scotland's largest industries is construction, contributing £ 10 billion to the Scottish economy and is responsible for the provision of the local transportation, educational, business and housing infrastructure.⁴ Measures to reduce impacts on biodiversity have been developed by the construction sector providing innovative approaches to sustainable development.

For other businesses where natural resources are perhaps less important, the role of the countryside and biodiversity is nevertheless becoming increasingly apparent. Scotland has been leading the way in providing the base for numerous knowledge based industries including software development, electronics and financial services. Scotland is one of the leading financial centres in Europe and more than 800 software firms have located their development teams in Scotland. Along with energy, these sectors are predicted to grow in Scotland over the coming years.

Attracting and keeping talent is key to these companies. Many employees are astutely aware of issues associated with the wider environment and appreciate working and living in an environment which encourages healthy lifestyles and appreciation of the environment. Biodiversity underpins the Scottish countryside and provides residential and commercial centres with an opportunity to provide attractive environments.

II. CONTEXT

What is Biodiversity and Why is it Important?

Biodiversity, the entire variety of life on Earth, is fundamental to Scotland's future as well as the planet's. Animals, plants and micro-organisms all have a role to play in ensuring a healthy and sustainable environment for the survival of life on Earth. Biodiversity matters, not only to scientists and conservationists, but to everyone because we all depend on biodiversity for our lives and livelihoods.

Biodiversity is the variety of life on Earth. The term biodiversity embraces the entire ecosphere and all the ecosystems and constituent parts as well as the processes which keep them functioning and evolving. It includes genetic diversity, the variety of species within communities as well as the whole range of different ecosystems or habitats where these communities survive. Businesses exist within this environment and also depend on this

⁴ See <http://www.hie.co.uk/case/construction-industry.html>

biodiversity to meet their immediate and future needs, for raw materials inputs, as well as vital environmental services such as water filtration, soil regeneration and waste assimilation.

Biodiversity is a provider of natural goods and services supporting industries contributing to the quality of air and water, helping control flooding and stabilising the climate. Reed beds, other wetlands and riverside woodlands filter pollutants, keeping our water clean. Trees and shrubs capture carbon and stabilise the soil. Invertebrates pollinate crops and gardens.

Biodiversity enhances the way that the countryside looks. Imagine a landscape bereft of its familiar cover of habitats and associated fauna. The dramatic landscapes of Scotland provide the basis for one of Scotland's biggest, tourism.

All businesses – from the family-owned bed and breakfast to the multi-national corporation, consume resources and influence the way in which resources are used by their customers in their day to day operations. From wildlife photography to construction, whisky distillation to fishing, there are more than 150 ways in which biodiversity is used directly in the Highlands.

Apart from the direct uses of biodiversity, all companies also derive indirect benefits from biodiversity through their day to day operations. For instance, the process of producing and transmitting electricity impacts on biodiversity right from obtaining sources of energy such as coal or oil, through to deciding where to position pylons. Transportation, a major source of carbon dioxide emissions, contributes to changes in climate affecting habitats where species exist. Society depends on many of these habitats for their 'natural services' such as air and water purification and flood and wind protection. Reeds and grasses, growing in wetlands, are vital for water purification and flood protection and are also used by many bird species for food and nesting. Hedges, valuable as wildlife corridors permitting birds, mammals and other animals to travel between isolated areas of shrub or woodland, break up farm fields while creating barriers to spreading pests and plant diseases.

Biodiversity and Sustainable Development. Nothing on this planet exists in isolation and each contributes to the balance of nature and survival of the planet. Scottish communities in rural and coastal areas depend on natural resources for their livelihoods and urban areas depend on many of the goods and services which these rural communities can supply. Similarly, the survival of businesses – or its long-term profitability - relies on a fine-tuned balance of economic, social as well as environmental management. Scotland's future depends on sustainable development.

“Sustainable development is not an optional extra. Our social, economic and environmental ambitions are interlinked and we must work to deliver all three if we are going to deliver the quality of life we want for ourselves and for future generations”. *Ross Finnie, MSP Minister for Environment and Rural Development and Andy Kerr MSP Minister for Finance and Public Services in the Foreword to Building a Sustainable Scotland: Sustainable Development and the Spending Review 2002.*

In the heart of the Cairngorms National Park, Balliefurth Farm lying on the river Spey considers sustainable land management practices as imperative to the survival of its business. The farm witnessed the consequences of unsustainable farming practices during flooding in 1990, and has since taken steps to ensure that the survival of its business is not threatened by environmental events.

The owners of Balliefurth Farm have developed a habitat management plan as part of its holistic business model, diversifying the activities on the farm and land management. They have opened a bed and breakfast, are carrying out woodland management for indigenous species, encourage different wild flowers and grasses into the fields, rotate fields, have put up interpretive signs on the Speyside foot-path that passes through the land, and input into discussions with other farmers and land owners under the LEAF (Linking Environment and Farming) Scheme.⁵ One of the owners also sits on the National Parks Board and both work closely with the Local Biodiversity partnership. The farm now has some 90 suckler cows and 190 ewes grazed on the farm's fields, butchered locally and consumed by the community and Bed and Breakfast guests. The diversity of activities provides for a variety of income sources as well as balancing different land-uses with conservation objectives, reducing future economic or environmental risks.

The conservation of biodiversity forms a part of good environmental, social and economic performance, the three pillars of sustainable development. These three elements of sustainable development are captured in the Convention on Biological Diversity (CBD)⁶ through the objectives of conservation (an environmental objective), sustainable use (an economic objective) and equitable sharing of benefits (a social objective). Economic activity depends on life and life depends on biodiversity. All companies, regardless of the systems which they employ for environmental management, certification or standards should therefore be able to integrate biodiversity into their triple bottom line.

Fifty years ago, the salmon at Black Bridge over the River Fyne would gather in such quantities that one could imagine walking on the fishes' backs from one bank to the other. Lack of understanding and disregard for biodiversity on adjacent land has led to over-fishing and habitat damage. The consequences of over-fishing have been dramatic declines in many fish species across Scotland and the world. The effect on many local fishing communities has been devastating, with economic collapse often leading to social problems.

Driven by a guiding philosophy of respect for the animal and for its habitat, Loch Fyne Oysters has set up an oyster and mussel farm along the banks of the Loch. The company's policy is to ensure that the environmental impact of its activities is at least neutral, while striving to be positive. It works actively to enhance biodiversity and to underpin the economy of the community by the provision of skilled work, fairly rewarded and in line with the traditions of the locality.

⁵ See Section VI, The ABC of Biodiversity

⁶ See Section VI, The ABC of Biodiversity

Biodiversity is an indicator Many people have compared biodiversity to managing a bank account – a healthy account which is in credit is a sign of good financial management and good business management. In the same way, a healthy environment will contain a large variety of living things, while a poor environment tends to contain large populations of just a few species. Poor environments are the result of bad management, using and damaging resources more quickly than are replaced or repaired. Sustainable development can thus be measured in terms of the well being of biodiversity.

“Biodiversity is a measure of the health of the earth. It is the ‘canary down the mine’.” *Charles McGill, Environment Manager, Diageo.*

The Scottish Executive has included biodiversity as one of its headline indicators for sustainable development.⁷ Similarly, the UK government identified biodiversity as a core indicator of sustainability, in two reports: *A Better Quality of Life* and *Quality of Life Counts*.⁸ The European Commission committed to establishing a system of biodiversity indicators by 2003.⁹

Some industry associations and companies have also developed Key Performance Indicators as part of their environmental and sustainability performance measures. The Global Reporting Initiative, the Business in the Community of Corporate Responsibility Index and sector specific guidance such as Construction Industry Research and Information Association (CIRIA) all include biodiversity as part of their recommended overall reporting criteria.

To help the construction industry to tackle protecting sensitive sites and minimising damage to ecology, BRE (Building Research Establishment) and CIRIA¹⁰ have developed a set of three complementary biodiversity indicators that allow the impact of construction projects on biodiversity to be measured:

1. Impact on Biodiversity: Product
2. Impact on Biodiversity: Construction Process
3. Area of Habitat

⁷ Scottish Executive. 2002. *Meeting the Needs...Priorities, Actions and Targets for Sustainable Development in Scotland*: <http://www.scotland.gov.uk/library5/rural/mtnsd-00.asp>

⁸ DETR (now DEFRA). 1999. *Quality of Life Counts – indicators for a strategy for sustainable development for the UK: a baseline assessment and A Better Quality of Life – A strategy for sustainable development for the UK*. HMSO, London.

⁹ European Community Biodiversity Clearing House Mechanism: <http://biodiversity-chm.eea.eu.int/>

¹⁰ BRE is a UK centre of expertise on buildings, construction, energy, environment, fire and risk, and CIRIA, an independent and authoritative broker of construction research and innovation in the UK: <http://projects.bre.co.uk/biodiversity/> and <http://www.ciria.org.uk/>

Scottish Power has developed Key Performance Indicators (KPIs) at business unit level, including biodiversity as a key issue of environmental sustainability. The company defines biodiversity in terms of how it minimises its impact on biodiversity.¹¹

Biodiversity and Corporate Social Responsibility

A growing body of studies now links profitability of companies to corporate social responsibility (CSR) or the commitment which businesses make to sustainable economic development, working with employees, their families, the local community and society at large.¹² Customers, investors and employees are starting to consider CSR profiles before making decisions to buy, invest in or work for a company.

One way for companies recognising the link between financial success and CSR to begin acting on environmental and social performance is to incorporate ‘triple bottom line’ thinking into their overall strategies. The triple bottom line concept corresponds to the foundations of sustainable development as well as the CBD’s three objectives, demanding that companies report on performance in economic, environmental and social terms.

	Biodiversity (CBD)	Sustainable Business (CSR)	Sustainable Finance (SRI)	Sustainable Development	
Environment	Biodiversity conservation	Environmental protection	Environmental value	Environmental protection	Planet
Economy	Sustainable use	Economic growth	Economic value	Economic development	Profits
Society	Equitable sharing	Social equity	Social value	Social development	People

A commitment to CSR means recognising the significance of the community and the natural and built environment in relation to business performance. It also requires an understanding of how these relate to the company’s economic, ethical and social responsibilities and costs. Socially responsible companies commit to these values through demonstrating respect for employees, communities and the environment. Biodiversity is woven into all aspects of this tripartite relationship and wise use and conservation of the world’s natural resources is a concern to companies involved in direct use and extraction of resources as well as to those

¹¹ See: http://www.scottishpower.com/pdf/environment2002/enviromental_sustainability_report/performance_summary.pdf

¹² Holliday, C. O. Jr., Schmidheiny, S., and Watts, P. 2002. *Walking the Talk: The Business Case for Sustainable Development*. Greenleaf Publishing Limited, pp. 103.

indirectly benefiting from biodiversity, such as financial institutions, consumer goods companies, service organisations and the information technology sector.

Biodiversity and Communities

The Scottish Biodiversity Strategy identifies the importance of maintaining biodiversity in communities, particularly in urban areas where natural and green spaces create clean, healthy and attractive living environments. Much of Scotland's urban green space has a huge potential for improving the quality of life of people living in built up areas. The Greenspace for Communities initiative aims to transform the environment and quality of life in and around Scottish settlements. It will encourage community participation and ownership; enhance biodiversity, use green space to encourage healthy lifestyles and foster understanding and appreciation of the environment. By adopting biodiversity objectives and establishing demonstration sites in urban areas Greenspace initiatives can show people what can be achieved locally.¹³

Wildlife has provided a unique development opportunity to boost the economy of North Berwick, which fell into decline after the advent of inexpensive package holidays abroad in the 1970s. Following several years of planning with the local community, the Scottish Seabird Centre opened its doors to the public in 2000, with specific aims to:

- Regenerate the local economy based on wildlife tourism;
- Develop this tourism initiative in a sustainable way;
- Reduce the impact of tourism in order for wildlife to benefit;
- Allow the public, local community and scientists to see, enjoy, learn about and benefit from wildlife.

Sitting the Scottish Seabird Centre at a derelict sea-front swimming pool placed it at the heart of the community. Local people were involved in planning and developing the facility right from the start, and the centre now contributes around £1 million to the local economy per year, as well as providing employment for up to 50 staff, and benefiting local businesses. The tourist attraction has won several prestigious awards including the Scottish Thistle Award for Tourism and Environment 2002 and Gold Level in the Green Business Tourism Scheme.

Ross Finnie (MSP Minister for Environment and Rural Development) and Andy Kerr (MSP Minister for Finance and Public Services) have outlined economic growth, increasing opportunities in communities, involving young people, improving public services and

¹³ See <http://www.greenspacescotland.org.uk>

safeguarding the environment as key factors in shaping a sustainable Scotland.¹⁴ Biodiversity conservation provides opportunities to contribute to all of these factors and promote sustainability in Scotland.

Many businesses already express a concern for the communities where they operate and demonstrate a commitment through supporting different sorts of initiatives which help to enhance people's quality of life. By becoming involved in enhancing biodiversity, both on their sites and in surrounding areas, companies can make a very real and visible impression on the areas where they are located. Enhancing biodiversity has environmental advantages and can also provide economic and social benefits.

Biodiversity is Everybody's Business. Everybody uses and benefits from biodiversity. Whether it is clean water to drink, fresh air to breathe, food to eat, clothing to wear or a myriad of other products and services provided by biodiversity, we all rely on it for our survival. In Europe, almost 50% of terrestrial natural resource production goes to supporting humans. There are now more than six billion people on the planet and the local impact of humans on biodiversity is one of the major challenges for humankind.

By its very nature, biodiversity is interlinked with other aspects of the environment so that it can only be managed through cooperation between different parts of society. Complex food-webs, ecological processes, relationships between plant growth and climate change, the effects of industrial processes and government policies all have a bearing on biodiversity and, in turn, on the planet as a whole. The responsibility for the conservation of the vital life-support system of the planet must therefore fall upon us all.

“The preservation of biodiversity is not just a job for governments. International and non-governmental organisations, the private sector and each and every individual have a role to play in changing entrenched outlooks and ending destructive patterns of behaviour.” *Statement given by Kofi Annan, UN Secretary General on the 2003 International Day of Biological Diversity.*

Governments all over the world are increasingly turning to businesses to help deliver solutions to environmental problems and help secure the stable environment which enables markets to flourish. At the same time, many companies, from international corporations through to small locally based companies, are taking part in a wide range of activities from educational initiatives to local conservation projects in order to help work towards a sustainable future for themselves, their employees, their families and the communities in which they live.

¹⁴ Scottish Executive. 2002. Building a Sustainable Scotland: Sustainable Development and the Spending Review 2002. Edinburgh: Scottish Executive:
<http://www.scotland.gov.uk/library5/agri/bass-00.asp>

The Royal Northern Countryside Initiative (RNCI), supported by Mackie's Ice-Cream and a number of other small businesses in Aberdeenshire, is a scheme for raising awareness about farming. It aims to show children that farming can still be viable and profitable by bringing the farm right to their classrooms. A trailer stocked with examples of the raw materials from which products come, often including a sheep or cow provided by a local farmer, visits the children. Everyday products, such as ice-cream and fleeces, are shown alongside environmental displays illustrating sustainable farming and countryside stewardship.

Biodiversity is good Business. There have always been companies which recognised that by treating their employees or stakeholders well, they would benefit in terms of loyalty, productivity and, ultimately, profit. Environmental issues, including nature conservation, initially began to be incorporated into company management systems at a financial cost as companies worked towards achieving legislative compliance or to improve their image. More recently however, the environment – including biodiversity – has become a core part of business, driven by issues such as competitive advantage, reputation, brand image, risk reduction and positive selling points.

“Every time we lose a species, we are diminished just a little bit in culture and spirit. We lose a little bit of the richness of who we are as humans. To put it bluntly: the businesses that respect those values will survive and be rewarded with goodwill, strong brands, and lower risk profiles. And the businesses that do not will be punished by local communities or by the markets. It's that simple. (...) There is a financial gain to be had if you handle these issues well. And there is a financial risk if you handle them badly”. *Remarks of IFC Executive Vice President Peter Woicke, IUCN-World Conservation Union Business Day 'Is There A Business Case for Biodiversity?' World Summit for Sustainable Development, Johannesburg, 31 August 2002.*¹⁵

From direct provision of natural resources to natural services leading to a healthy environment, biodiversity provides a myriad of business opportunities from medicines to eco-tourism. Biodiversity is a necessity for businesses, and good biodiversity management is necessary for the survival of businesses and, in the long term, actually costs less.

Scotland's Biodiversity

Scotland is home to more than 90,000 known species of animals and plants living in the sea or on the land. The environment, geology, climate and history which led to the development of this diversity is characterised by a fine balance between species existing in some unique habitats. A map produced in 1997 showed five 'biodiversity hot-spots' throughout Scotland

¹⁵ See: <http://ifcln1.ifc.org/ifcext/home.nsf/Content/IsThereABusinessCaseforBiodiversity>

and a number of nationally and internationally important habitats and species. Forty-one habitats and 184 species have been identified as priorities for conservation in the UK.¹⁶

Additionally, Scotland boasts habitats which exist nowhere else in the world, such as the native pinewoods and coastal machair, with its windswept flower meadows traditionally farmed by crofters, and home of the great yellow bumblebee. Other examples of Scotland's biodiversity include:

- Reserves of moist oakwoods, rich in lichens, liverworts, mosses, ferns, and fungi.
- Raised and blanket bogs, consisting of living sponges of moss and peat.
- Wild coasts containing some of the most important sea-bird colonies in Western Europe, including more than half of the world's gannet population.
- Gardens, rooftops and roadside verges across Scotland's towns and cities.

What are the Issues?

"In a business context, biodiversity is the planet's bank account of living natural resources. It is finite in species and habitat and mankind's activities mean that withdrawals currently exceed deposits". *David Anderson, Scottish Power.*

People's dependence on biodiversity means that they have used and changed biodiversity considerably. Without due care development can and has had negative impacts on biodiversity, resulting in a decline of overall diversity as well as specific species. Scotland's biodiversity today is different from what it would have been in its natural state.

- Woodlands and forests, believed to be the dominant habitat for most of Scotland were it not for disturbances, were reduced to less than 5% of Scotland's land area by the 1900s.
- Around 25% of Scotland's flowering plants are in decline.
- 33% of the 300 species of birds found in Scotland are in need of special conservation attention.
- Some 10% of the Scottish coastline has come under intensive urbanisation and industrial pressures, fish stocks have been over-exploited and more than 10% of Scottish river habitats have been heavily modified.
- Atlantic salmon is extinct from many western rivers.

Inaction and expecting 'someone else' to repair damage can only lead to further degradation of biodiversity. It is the responsibility of all of society to internalise and take account of the negative impacts of biodiversity loss. There is strong evidence of positive change which can be brought about as a result of taking action. For instance, serious pollution in Scottish

¹⁶ Smythe, M.A. 2002. *Biodiversity in Scotland, Progress Report*. RSK-ERA Limited, Scottish Executive Central Research Unit.

estuaries was reduced by 40% between 1996 and 1999. As a result, the number of species (fish and invertebrate) found in places like the upper Clyde estuary nearly doubled. Around the coast of Scotland, the number of harbour (common) seal and grey seal has remained stable or actually increased over the past ten years. Thanks to afforestation programmes, forest and woodland cover in Scotland increased some 17% by 2001.¹⁷

Biodiversity Action in Scotland

The overall process of implementing the CBD in the UK falls under the umbrella of the UK Biodiversity Action Plan, which operates through more than 160 local biodiversity action plans as well as habitat and species action plans. Full coverage of these plans, as well as the partnerships and lead-partners that are taking the action plans forward, are available from the UK BAP web site (www.ukbap.org.uk). The process is supported by NGOs, local communities, businesses, government agencies as well as government departments.¹⁸

In the UK, biodiversity is a devolved matter and the conservation of Scotland's biodiversity is being led by the multi-stakeholder Scottish Biodiversity Forum (formerly Scottish Biodiversity Group),¹⁹ which works in partnership with the Scottish Executive on the Biodiversity Strategy.²⁰ This strategy lays down a 25-year vision for biodiversity in Scotland in order to:

- Halt the loss of Scotland's biodiversity and improve the status of Scotland's priority species and habitats.
- Raise awareness of the many benefits of biodiversity by significantly increasing the number and range of people contributing to its conservation and enhancement.

Scottish businesses have a long history of involvement with biodiversity – or nature – conservation. Many companies were managing wildlife on their own sites, supporting conservation programmes and working with local communities as well as the government to maintain and improve the Scottish landscape, a long time before the term 'biodiversity' became popular in the 1990s.

When the Scotland Biodiversity Group took responsibility for carrying out the UK's commitment to the CBD in 1999, a business sub-group was formed by companies leading in conservation work throughout Scotland. The sub-group held a number of meetings and published a leaflet and presentation (led by Scottish Power) to raise awareness about biodiversity and ways in which to take action.

At the same time, local biodiversity partnerships across Scotland have been working with businesses, helping companies to assess their impacts on biodiversity, identifying ways in

¹⁷ Forestry Commission, 2002. *National Inventory of Woods and Trees*. FC Edinburgh.

¹⁸ See Section VI, The ABC of Biodiversity

¹⁹ See: <http://www.scotland.gov.uk/biodiversity>

²⁰ See: <http://www.scotland.gov.uk/library5/environment/sbiiyh-00.asp>

which companies can become involved in biodiversity activities and inputting into company biodiversity action plans for their sites.

The North-East Biodiversity Partnership runs a Business and Biodiversity Project which has been working with over a dozen companies. A Business Adviser is employed promote biodiversity action by businesses, which can bring a range of benefits to companies and nature conservation alike. The LBAP has produced a Business and Biodiversity in North East Scotland booklet (2002), which highlights best practice examples in the area, and is currently producing a range of Advice Notes outlining more ideas on how businesses can get involved in action for wildlife.²¹

Across Scotland companies like BP, International Paper, Loch Fyne Oysters, Mackie's Ice Cream, Scottish Power, Diageo, Scottish and Southern Energy, Royal Bank of Scotland Group and many others are finding that biodiversity action is good for their businesses, good for Scotland and is good fun too!

²¹ See www.nesbiodiversity.org.uk/business.htm or for further details please contact Maria Hardy, NE Scotland LBAP, Doig Scott Building, Craibstone Estate, Bucksburn, Aberdeen AB21 9YA. Tel: 01224 711120. E-mail maria.hardy@aberdeenshire.gov.uk

III. THE BUSINESS CASE FOR BIODIVERSITY

Biodiversity embraces many aspects of covered by environmental management. Similar to other environmental issues, the drivers for the business case for biodiversity can be understood in terms of risks and opportunities. The position of a company in the market-place, as well as its profitability, will be affected by the way in which it manages its risk. These risks can, on the other hand, be turned into opportunities benefiting biodiversity and businesses alike.

Risks and opportunities stem from the way in which biodiversity is used by an organisation in the process of developing and selling products or services. Additionally, risks and opportunities exist which relate to a company's contractors, suppliers, clients and other stakeholders – both now and in the future. This section will outline how each of the following risks and opportunities in turn relates to biodiversity and, ultimately, the overall management and performance of a company:

1. Law and Regulation
2. License to operate (access to land/permit times/relationships with regulators and communities) and reputation
3. Market share and image
4. Security of supply
5. Stakeholder relationships
6. Employee motivation and productivity
7. Financial gains
8. Sustainable Development and CSR

Law and Regulation

A compelling reason why companies may become concerned with biodiversity relates to the need to comply with legal requirements. In the UK, companies are required by law to assess and manage their environmental and social risks.²² While there is no single biodiversity law in the UK, different policies and pieces of legislation designed to uphold the principles of the CBD and countryside conservation in general include the Nature Conservation in Scotland Bill (2003) and the Natural Heritage Act (1990). The Nature Conservation Bill is of particular significance as, for the first time, it will give local authorities a duty to safeguard biodiversity. Additionally, there are a number of laws in Scotland, the UK and Europe which protect species and habitats, provide a framework for establishing protected areas and uphold international conservation conventions.²³

²² See: The Institute of Chartered Accountants in England and Wales, 1999. Internal Guidance for Directors on the Combined Code - The Turnbull Report on Corporate Governance. London, UK.

²³ See Section VII *Law and Policy*

Companies are expected to comply with legal requirements and many have addressed these requirements through their environmental management systems, identifying their activities, their impacts and what laws relate to their business activities. Astute managers will also be aware of the legal framework beyond the business' immediate environment, ensuring compliance in potential new markets or with future legislation. The European Union Environmental Liability Directive, when it comes into effect in two years, will have a significant impact on businesses in the UK, with potentially high penalties if companies are deemed to be breaking the law.

Risks of non-compliance, regardless of whether this is intentional or not, includes fines, curtailment of operation permits, closure and even court proceedings. Outside of the legal risks, there are implications in terms of a company's stakeholders such as insurance companies or clients, which may demand assurance of a company's legal compliance.

License to Operate and Reputation

The positive relationship between a company's environmental performance and reputation has been highlighted in *The Company Law Review*.²⁴ Being a good citizen, neighbour and employer not only helps companies to secure official licenses necessary for them to operate, but can also cement positive community relations, attract good employees and bring in additional business.

By addressing biodiversity concerns, a business is more likely to secure and maintain their license to operate. Denial of this license is costly, resulting in lost investments and reduced returns. By incorporating biodiversity concerns into its business, it can improve its reputation among stakeholders, gain trust and earn positive publicity. This will have benefits to the ongoing running of the existing business as well as when the company seeks to expand. Incorporating biodiversity into the start of project design and planning also helps companies get through planning applications. No company wants to see itself at the centre of controversial campaigns organised by pressure groups, and by addressing biodiversity such costly confrontations can be avoided.

Scottish Power performs full Environmental Impact Assessments (EIAs), which include biodiversity considerations, on any proposed major installation as a routine part of its planning process. When a planning application is referred to an inquiry, the company has found that this process ensures a more thorough investigation of all possible options, leading to fewer uncertainties in its decision making. Furthermore, by exploring all options and consequences with stakeholders before making final recommendations, the company's plans are already well known and less likely to be rejected at project approval time.

²⁴ Department of Trade and Industry, 2001: http://www.dti.gov.uk/cld/final_report/index.htm

BP's approach to environmental management has successfully helped the company through consultation processes for new developments and improved access for exploration surveys. In one case, full seismic surveys were allowed, employing techniques which prevent damage to sensitive habitats. The quality of data that was collected via these surveys allowed greater accuracy of well positioning, resulting in fewer drilled wells being drilled and improved production rates.

Market share and image

Environmental and social responsibility activities provide companies with a competitive advantage by helping to differentiate their products and services. This is true not only in niche markets such as those for 'ethical', 'fair-trade' or 'organic' goods and services, but in main-stream market places like supermarkets, petrol stations and department stores.

Companies invest a lot of money, time and effort into building up the reputation, image and value of their brands. A company's reputation and profit can quickly suffer through attacks on specific brands; and failing to address environmental issues can easily lead to harmful campaigns being waged, highlighting the negative aspects of a company. Therefore it is sensible for companies to safeguard their brand image by ensuring that environmental priorities, such as biodiversity conservation, are addressed.

While poor performance can quickly harm brand image, few products or services are currently marketed for the company's biodiversity contributions. However, those companies which have developed plans for addressing biodiversity concerns and are working towards its conservation often find that their contributions to biodiversity are closely linked to their goals to deliver high quality products and services. They often position themselves as high-quality, dependable suppliers which customers know and trust both at home and abroad.

Today's consumers are faced with a myriad of choices and many people make informed decisions about the products they buy. Differentiating products and services may allow a company to charge a premium price or to increase market share by retaining existing and attracting new customers. Increased market share has obvious bottom line benefits as well as potentially important benefits stemming from improved overall performance and reputation, such as attractiveness for investors.

Loch Duart is a company that has had high environmental standards for over 25 years, and has developed unique fish farming processes, which are beneficial to the welfare of the animals as well as biodiversity. In 1999, the company developed a marketing concept to sell 'salmon-tasting salmon with a difference'. This required some form of recognized accreditation, and the company opted for an RSPCA standard which was developed over three years, with marketing decisions driving this process. Despite the costs, the company remains committed to sustainability. 'Welfare and quality are correlated' argues the Managing Director of Loch Duart, and quality and taste is what sells to the company's markets in the UK and Europe.

At Marks & Spencer quality has always been of paramount importance and now is understood to encompass the principles of sustainability. This includes taking account of biodiversity impacts across the company's operations from field to fork. While Marks & Spencer does not market biodiversity per se, a whole range of products and their constituent raw materials, from Scottish Haddock to cotton shirts, have been assessed for their impacts and steps taken to improve these impacts. For Marks & Spencer customers, this means that whatever they pick from the shelves they can be confident that the product they are buying has been selected and produced with sustainability in mind.

For companies wishing to market the effort they put into conserving biodiversity through their brands, a number of certification schemes have been developed, such as the Marine Stewardship Council (MSC). Products produced in ways which meet the minimum standards outlined by these schemes may carry their logo. However, more work needs to be done to incorporate biodiversity into many of these schemes.

Security of Supply

All companies use biological resources in their products or services, and the sustainable supply of these resources is crucial. The dependence of businesses on biodiversity is perhaps one of the most apparent reasons for supporting conservation. Biodiversity provides important natural products and underpins basic natural services such as the provision of freshwater, fertile soil, clean air and stable weather systems. The use of juniper for flavouring gin, bog myrtle to produce insect repellent, the marketing of wild mushrooms, and the use of seaweed for cosmetics are just a few such examples.²⁵ Once these natural resources are used up or damaged, companies will have to find substitutes or risk losing their businesses altogether.

When developing its biodiversity strategy, Diageo, the world's largest premium drinks business which has production and marketing operations throughout Scotland, identified over 50 species or other biological items which contribute to the production, maturation, storage and packaging of its products. Some of the main ones are:

Hops	Wheat	Barley	Rye	Maize	Grape varieties
Yeast	Apples	Lemon	Sugar cane	Sugar beet	Nutmeg
Camomile	Vanilla	Coriander	Angelica	Sloe	Dill
Cocoa	Poplar	Peat	Papaya	Cattle	Hardwoods
Birch	Cork	Softwoods	Yeast		

²⁵ Milliken, W. and Bridgewater, S. 2001. Sustainable Development of Scottish Plants. Scottish Executive Central Research Unit. Flora Celtica.

Procurement requirements of companies vary, but will tend to include some of the following:

- Purchasing of raw materials used to produce the goods a company sells. Biodiversity impacts of raw materials can be assessed at their source.
- Procuring services which are provided through external contractors. These will themselves be purchasers of goods and services with biodiversity impacts.
- Sourcing electricity, water and gas supplies and waste management services. The provision of these utilities services will have impacts on biodiversity through the way in which they are produced and managed.
- Managing transportation for moving goods from source to customer as well as transporting employees. Biodiversity is affected through the way in which the transport infrastructure is developed and through the effects of emissions.
- Employing technology and processes which vary in terms of their overall environmental footprints, for example in terms of energy use, and have associated implications on biodiversity.
- Purchasing goods and services which support the running of a business, such as stationery, bill and invoice printing and despatch or refreshments served at meetings.

Due to the fact that many companies do not directly impact biodiversity through their primary activities, biodiversity management involves analysing and working with suppliers. Companies have a number of options available to them for managing biodiversity through their supply chain, from requesting suppliers to provide environmental policies, sending out questionnaires, including biodiversity clauses into contracts and carrying out audits with suppliers. In cases where suppliers do not meet minimum standards, training can be provided to help them improve their awareness about and performance on biodiversity.

International Paper at Inverurie seeks to use wood pulp from sources which comply with the company's Environment, Health and Safety and Sustainable Forestry Principles. Pulp comes mainly from the company's own paper pulp mills and is made from wood procured from a variety of sources including managed forests, coppice woodlands and naturally regenerated trees. To assure adherence to its principles, the company visits potential suppliers and anyone shown to undertake activities inconsistent with these principles is asked to remedy them expediently.

The Royal Bank of Scotland Group is constructing its World Headquarters building at Gogarburn, on the outskirts of Edinburgh. The project is being managed and carried out by over a dozen contractors according to sustainability guidelines, which aim to manage the environmental impacts of the building's construction and long term maintenance. A consultancy, RPS, has been employed to ensure that all parts of the project take sustainability criterion into consideration, including suppliers. A sustainability forum has been formed for managers and construction contractors to undergo Environmental, and Health and Safety training, which covers a wide range of issues including important wildlife considerations such as dealing with nesting birds and protected trees.

Supply chain management is an important element of environmental management standards and reporting systems and is a key consideration for Socially Responsible Investors. Additionally, companies engaging their suppliers through open dialogue can contribute to facilitating attitudinal and behavioural changes towards biodiversity, with positive consequences for the entire ecosystem.

Employee motivation and productivity

Responsible companies are more likely to attract, retain and motivate good employees. Many people, particularly those with land-management responsibilities, like to relate positively with biodiversity, be that for recreational or rest purposes or because they themselves feel responsible for or committed to the natural environment. A company that makes a commitment to biodiversity and encourages employees to contribute to biodiversity activities may find that it harnesses the innovative and creative potential of employees, which can benefit the company in other ways such as productivity of ideas and outputs.

At Diageo, employees are encouraged to be innovative and the company supports the generation and implementation of good ideas – aspects of the company’s culture which are summarised by two of its values: ‘proud of what we do’ and ‘be the best’. Diageo runs an employee engagement programme with Earthwatch through which staff can participate in conservation projects throughout the world and, in the process, learn about biodiversity. On their return, Diageo Earthwatch champions set up conservation-related projects in their communities and at work. To date, these have included educating visitors about biodiversity and setting up conservation areas at the company’s Scottish distilleries.

Operators of BP’s Northern Business Unit are using remote operated deep-sea vehicles to help collect photographs and information which contribute towards deep-sea marine research and the SERPENT project.²⁶ In addition, the data and photographs of marine life collected by staff during the course of their work has greatly improved the interest and motivation of the operators during their shifts. The employees contribution to scientific research is now being incorporated into formal research projects, which includes the publication of three scientific papers, running in partnership with University of Aberdeen and Southampton Oceanography Centre. www.serpentproject.com

Stakeholder Relations

²⁶ <http://www.biodeep.com>

A company's stakeholders include everyone with an interest in and potential impact on the business. Both internal and external stakeholder relationships are affected by a company's behaviour. Biodiversity is visible and tangible and local communities, employees and the public may be able to relate particularly well to wildlife and landscape conservation activities. A company's commitment to biodiversity can be communicated, understood and experienced by people whose natural environment is enhanced by a company's biodiversity performance.

Both the UK and Scottish government have committed to biodiversity conservation and companies engaging in this issue, managing special protected areas such as SSSIs to ensure that they are kept in favourable condition or sponsoring species or habitat action plans, stand to gain in terms of their reputation with government agencies.

Working with stakeholders can build up a company's understanding of biodiversity and how to approach the issues. It is also a constructive way in which to help develop the capacity of stakeholders who are exposed to new ideas, skills and ways of working. This capacity serves the local community, including the natural environment, where businesses operate. Companies without significant land holdings can also improve stakeholder relations by managing their supply chain and other operations in responsible ways, running awareness-raising campaigns and supporting other conservation projects. In all these cases, the benefits derived from positive publicity will have spin-off effects on a company's reputation, license to operate and potential to employ and retain good staff.

There have been instances where companies have developed biodiversity policies and strategies but found that by publicising these commitments, they attracted attention to the company, raising expectations of some stakeholders. Negative press and criticisms may be moderated or prevented through establishing ongoing dialogue with stakeholders and managing their expectations.

Financial gains

Many steps taken to reduce a company's environmental footprint can save money by reducing direct costs and improving efficiency. Integrating biodiversity into overall environmental management helps to highlight benefits for biodiversity and need not necessarily involve high incremental costs. However there are cases where steps such as remediation of land or landscaping a site can involve additional expenditure.

There are, on the other hand, many benefits associated with demonstrating positive steps towards improving the ecosystem. Good relationships with financial stakeholders, such as insurance companies, investors and banks, are all part of managing risks on continuous improvement of performance and of the overall value of a company.

"The right approach to social, ethical and environmental issues is vital in adding and preserving value for investors in the companies they own." *Mary Francis, Director General of the ABI, July 2002.*

Many ecologists believe that economic value of a biological resource does not reflect its whole economic spectrum. Costanza et al. (1997) argue that many underlying benefits of biodiversity are not fully 'captured' by market prices because they are impossible to measure and are inadequately quantified in terms comparable with economic services.

The FORGE Guidance seeks to progress understanding of Corporate Social Responsibility (CSR) for the financial services sector, and share knowledge and thinking to assist

organisations develop a response. Sector examples of how CSR can directly impact financial performance - negatively and positively - are becoming apparent and further support the business case for action.

The FORGE Guidance has been developed by eight financial services companies supported by three government departments and in consultation with seven stakeholder organisations. It is supported by the British Bankers' Association and Association of British Insurers. Developed by the sector, for the sector, the Guidance:

- Explains the drivers to act now to integrate management of CSR issues into 'business as usual' activities from a business perspective - recognising CSR as a source of business risk and opportunity;
- Highlights the complex and integrated nature of CSR issues and some of the critical challenges in implementing and demonstrating a response; and
- Provides practical advice on implementing CSR management and reporting processes - across the organisation and within individual functions/business unit.

In addition to attracting or retaining investors, biodiversity actions may also help to reduce costs by avoiding fines and lost revenues from poor management of biodiversity risks. This positive effect on the bottom line has been acknowledged by investment institutions, recognising that a company's good environmental management performance is often a reflection of overall good management. Equally, insurance companies take into account how well a company manages its risks when quoting premiums and good risk management may result in lower insurance costs. Managing risk through carrying out risk assessments, putting in place control procedures and obtaining certification such as ISO 14001 can all help demonstrate to insurance companies that a company is acting responsibly, reducing its liability risks and thereby reducing its premiums. The European Liabilities Directive will, for instance, increase the chances of companies which have not taken their biodiversity responsibilities into account being assessed with higher premiums.

CSR & Sustainability

Demonstrating a response to CSR in its entirety remains voluntary, however pressure from a wide range of stakeholders is making it almost implicitly essential to maintaining a licence to operate. Increasingly, those organisations actively responding to CSR recognise that their activities help inform the definition of CSR and shape stakeholders expectations of an appropriate response. This helps these organisations manage the CSR agenda and positions them to be able to realise the benefits from managing and reporting on CSR. Defining CSR and determining what is an "appropriate" response is, however, a significant challenge.

"Financial services companies have been at the forefront of developing Corporate Social Responsibility practice, and we are therefore delighted to be associated with this initiative. We are sure that these guidelines will help to continue to raise standards across our sector". Ian Mullen, Chief Executive, BBA, July 2002.

The benefits of incorporating biodiversity into CSR and Sustainability strategies becomes clear through a company's reporting process where all the strands of sustainability are pulled back together, making links between biodiversity and other environmental, economic and social issues. Companies that publicise their sustainable business practices may be able to capitalise on the reputation, licensing, stakeholder relationships and financial value. They

also contribute to the wider body of good business practice learning by sharing their experiences with other companies, seeking examples to build up their own sustainability agendas.

Developing Biodiversity Opportunities

By managing risks a company can find new opportunities which include:

- Securing licenses to operate
- Enhancing company reputation
- Strengthening the supply chain
- Bolstering stakeholder relationships
- Appealing to ethical consumers
- Attracting investors
- Reducing costs such as insurance premiums
- Improving employee productivity

By capturing biodiversity opportunities, a company can realise new opportunities, enhance their performance and end up with win-win situations which benefit both the business and the natural environment in which it operates.

Each business operates in its own micro-environment, with its own set of unique drivers and benefits. Depending on what, how, for whom and where it produces goods or provides services, biodiversity issues will differ. Accounting for these differences takes time and patience, working with local level stakeholders and drawing on local resources, such as local biodiversity partnerships.

The next sections will help you to compile a plan for your company. A general framework is presented, reflecting good practice by companies in managing biodiversity. Sector specific examples of issues, possible ways of tackling these issues, and resources which can help are covered in the next section. Finally, case studies collected from over twenty companies demonstrate how companies are implementing and benefiting from biodiversity actions.

IV. FRAMEWORK FOR ACTION

Many companies have followed a similar framework which has helped them move from gaining an understanding and awareness of biodiversity issues and how they affect their business through to implementing plans to help reduce the loss of and encourage an improvement in the state of biodiversity. Many companies find that they can actually begin to reap benefits from biodiversity related activities after investing only small amounts of time and money. The next section outlines eight steps which provide a road map for engaging with biodiversity.

1. ***Making the Business Case***

In order for you to be able to raise issues regarding biodiversity to the attention of your employees, managers or board of directors, you need to identify what drivers are applicable to your business. Some drivers, such as the need to be legislatively compliant, apply to all businesses (See *The Business Case for Biodiversity* in this document). Other drivers will depend on the type of business which you are and your specific risks and opportunities. Examples of the drivers and opportunities for the six sectors covered by this document are available in the sections following this general framework.

It is important to have buy in from the board of directors or senior management and companies which successfully take biodiversity forward almost always have a senior-level supporter backing any initiatives. A senior level champion can help to drive forward activities by making commitments, securing resources and demonstrating the needs and benefits to others within a company.

2. ***Finding out about biodiversity and your company***

Before embarking on the road to biodiversity action, a company will need to gain an understanding of what biodiversity means for it, its employees and its surrounding community. This process will include finding out and informing employees about biodiversity and looking at the business' activities to see which ones impact on biodiversity or can be tailored to make a positive contribution to biodiversity.

A number of resources for finding out about biodiversity are suggested in the Reference Section of this document as well as through the sector specific sections. Involving a local biodiversity partnership, for example inviting them to give a talk about biodiversity in the area, is a good way to introduce the subject to employees. Another way is to link up with other businesses, through forums or by simply contacting them.²⁷ Staff will then be able to think about their own areas of work in terms of biodiversity impacts. Some of the following steps may be useful to systematically look at impact areas:

²⁷ A list of local biodiversity partnerships and companies which stated that they would be happy to provide advice to genuinely interested other companies is provided in Section VIII - *Useful Contacts*.

- List sites and any conservation status or important features
- List existing and past initiatives. If past initiatives have been discontinued, ask why.
- List existing and past contacts or partnerships
- Look at your operations and assess direct and indirect impacts
- Ensure that you are legally compliant and reduce risks of non compliance by familiarizing yourself with existing and potential legislation²⁸
- Collect information / stories from employees, other businesses you work with, biodiversity partnerships and the community about other biodiversity activities in the area

For companies with significant land holdings or impacts on biodiversity, it is advisable to obtain expert ecological advice in order to ensure legislative compliance as well as to properly survey a site for biodiversity.

3. *Drawing up a policy or statement of intent and publicising it*

Clear policy statements on biodiversity allow clear objectives to be set and for biodiversity to become integrated into a company's management systems. Often existing management systems do not have the room or capacity to deal with biodiversity adequately, in which case companies often choose to develop a dedicated **Company Biodiversity Action Plan**, or at site level, a **Site Biodiversity Action Plan**. Once a policy has been developed it needs to be communicated to all stakeholders – this includes employees, contractors, suppliers, investors and other stakeholders.

4. *Drawing up a plan of action (Company BAP and Site BAP)*

A Company BAP²⁹ helps to focus minds on biodiversity, gaining understanding, commitment and resources for biodiversity related issues and activities. An overview of the process of planning for biodiversity and carrying out a plan is available from the business and biodiversity web site and includes assessing impacts, priorities and a base-line survey of what is currently available.³⁰ As with any management plan, developing SMART targets is important part of planning and subsequent monitoring. Targets need to be appropriate not only to the company, but also to biodiversity in general. This can be best achieved by ensuring that a company's BAP links in to the Local BAP (see below).

Businesses owning or responsible for land-holdings, such as farms or quarries, will be able to plan activities for managing this land in ways which encourages biodiversity. The Earthwatch leaflet [Developing Site Biodiversity Action Plans](#) provides an overview of this process and additional guidance is available from ecological consultancies, the Wildlife

²⁸ A summary of the legal context for biodiversity in Scotland is included in the Appendix on Legislation and Policy of this Document with additional information provided for each of the sectors covered.

²⁹ <http://www.businessandbiodiversity.org/>

³⁰ <http://www.businessandbiodiversity.org/>

Trusts and local Biodiversity Partnerships. In Scotland, grants are available from a number of sources, such as the Rural Stewardship Scheme, which provide guidance as well as funds for managing land for implementing conservation programmes.

Larger companies may need to look at their overall operations and impacts and prioritise areas of action. Indirect impacts may outweigh direct ones, especially in cases where a company does not manage or have access to land. Instead of working on land management related issues, such companies can address issues such as their supply chain or supporting other organisations.³¹

Some companies include biodiversity in their existing management systems covering issues such as environment, human resources, procurement or facilities management, rather than developing separate plans. Once biodiversity actions have been planned and are being implemented - either through a separate BAP or as part of their EMS, companies may wish to gain third party verification about the quality of these plans. While the Wildlife Trust's Biodiversity Benchmark has been specifically developed to address biodiversity, currently ISO 14001, BS8555 and EMAS do not explicitly cover biodiversity. The quality of certification of biodiversity aspects within an EMS will depend on the ecological expertise of the certifying body.

Smaller businesses which do not wish to proceed down the certification road may find awards, grants or local business development schemes provide equivalent guidance on developing systems and processes for managing biodiversity and other environmental issues. Many of these schemes also provide opportunities for training and networking with other organisations which can lead to improved biodiversity in the overall community. Details of some such schemes are provided in the sections on different sectors in this document

5. Stakeholder involvement

It is important that the biodiversity goals and priorities of a company fit into the local and regional strategies. Consulting with local communities, experts and other stakeholders enables companies to identify their own priorities and see where these fit into local and national priorities.

Part of a company's strategy for biodiversity action is likely to include keeping its employees as well as stakeholders informed about what it is doing. These activities can also serve to help raise awareness and educate people about wildlife, plants, ecology and the Scottish landscape in general, as well as about sustainability in general. Some of the ways in which companies have been engaging clients, tenants, employees, their families and investors directly in biodiversity include:

- Running competitions involving staff and families

³¹ http://www.businessandbiodiversity.org/action_plans.html

- Providing wildlife and plant information and check-lists to employees and visitors onto a site in order to raise their awareness of what is around.
- Involving employees and families and friends in conservation tasks on site or on the sites of partner organisations
- Keeping clients, suppliers, investors or tenants informed about actions and explaining why these are being undertaken through newsletters, e-mail circulars
- Sponsoring employees to take part in conservation related work, such as Earthwatch projects,³² and to apply what they learn to their communities or place of work.
- Developing and implementing standards and guidelines for contractors and suppliers and providing them with training to help them comply with these standards

Once a company becomes more experienced and confident in the field of biodiversity work, it can contribute significantly towards widening its impact through engaging with the wider community of businesses and people. Examples of what companies are doing include:

- Mentoring other companies or providing them with advice
- Supporting schools by providing them with resources or bringing them on site
- Sponsoring conservation organisations
- Becoming members of organisations or forums
- Giving speeches or presentations
- Becoming Steering Group members of their local biodiversity partnership

Working with your local biodiversity partnership by supporting them financially, with other resources, in-kind support, your expertise, training, providing contacts and networks, providing information can be of great value to biodiversity in the whole community.

6. *Monitoring and Reviewing*

Companies will need to put in place systems for tracking how their plans are being implemented, targets met and whether these are actually achieving the overall biodiversity objectives. There are two approaches to assessing performance:

1. Monitoring and evaluating activities against plan assesses the process of managing biodiversity activities. For instance the results of employee awareness raising initiatives would be an indicator of the success of a process rather than or actual biodiversity outcomes.
2. Monitoring outcomes of specific activities involves measuring actual biodiversity indicators. Such outcomes can be difficult to gauge, mainly because the very nature of biodiversity is that it fluctuates naturally over time and seasons, and that wildlife/animals are obviously mobile. Also, there remains much which is unknown about nature and so absolute numeric indicators may not be useful if a company is faced with new discoveries about a species either on its site or elsewhere. However, monitoring performance is

³² For details about how to develop an Employee Fellowships programme through Earthwatch visit <http://www.earthwatch.org/europe/>

useful for specific aspects. For instance, Scottish Power has set itself a Key Performance Indicator relating to aviary hit (bird strikes on wind turbines) which it monitors daily.

Targets will need periodic review as conditions change and for this reason, it is important that the outcomes of monitoring exercises are shared with other groups which may be able to help interpret and analyse data. For instance, it could be that a change in the population of a particular bird or butterfly is due to off-site activities, in which case a company which has committed to maintain that population needs to work with others to assess appropriate action.

7. Reporting

In reporting what a company does, it ensures transparency and gains recognition for what it is doing. There are essentially three routes to reporting what a company is doing on biodiversity:

- Becoming certified through an acknowledged scheme such as ISO 14001 or attaining the Wildlife Trust’s Biodiversity Benchmark.
- By following a framework for reporting, such as the Global Reporting Initiative or responding to one of the indexes on environmental performance, such as the Business in the Community Index of Corporate Responsibility (including the BiE Index of Environmental Responsibility).
- Through developing an independent reporting mechanism, such as a web-site on biodiversity activities or data.

8. Spreading the word

Another important way of reporting what a company is doing is through publicity. This also helps to widen the knowledge about biodiversity as suggested under the step above for capacity building. Publicity about positive news relating to biodiversity through the press and other media can be very beneficial to the company as well as the community. Other ways of publicising achievements is through applying for awards, as the awards schemes themselves will usually have ways in which to publicise winners.

Biodiversity achievements can be used for the benefit of the company in many ways such as in developing marketing strategies or presenting new proposals. If you’ve done a good job, why not present what you are doing for biodiversity as part of promoting your business!

Sector Specific Actions

Companies can contribute positively to biodiversity through a variety of different measures and activities and there is no single formula which fits all companies. However similar types of activities are relevant to businesses from specific sectors. Research into over twenty companies in Scotland provided examples of what companies are doing biodiversity:

Tourism Sector	Site biodiversity management Supply Chain Management Managing environmental impacts Awareness raising Working with stakeholders
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Retail Sector	Supply Chain Management Site biodiversity management Awareness raising Spreading the word
Food & Drink Sector	Planning for biodiversity Holistic thinking Working with stakeholders Marketing biodiversity Employee innovation Organic farming
Quarrying Sector	Planning for biodiversity Extraction and restoration Working with others Holistic thinking
Utilities Sector	Mainstreaming biodiversity Site biodiversity management Supporting biodiversity initiatives Renewable energy
Finance Sector	Managing investment decisions Engaging with investees Raising awareness Supporting biodiversity initiatives

TOURISM

Introduction

“Scotland has the assets to be a world-class tourism destination. It has magnificent scenery; a pristine natural environment; cultural and historical richness; world-famous sporting attractions; and beautiful and vibrant cities. These assets have helped to make Scotland an important tourist destination already, and to make tourism an important industry for Scotland.” *A New Strategy for Scottish Tourism 2000, Henry McLeish.*³³

Over 20 million overnight visitors spent almost £4.5 billion in Scotland in 2002, making tourism one of Scotland’s biggest industries, employing over 190,000 people, supporting 9% of all employment, and representing 5% of total Gross Domestic Product (GDP). More than 80% of visitors regard beautiful scenery, friendly people, wild landscapes, unspoilt environment, and nature and wildlife among top reasons for visiting Scotland.³⁴

³³ <http://www.scotland.gov.uk/library2/doc11/sfst-00.asp>

³⁴ VisitScotland. 2003. Tourism Attitudes Survey 2001. <http://www.scotexchange.net/tas2001.pdf>

Uses of and Impacts on Biodiversity

Scotland's environment – including its biodiversity - is vital in attracting visitors and the tourism industry, therefore directly benefits from biodiversity. Certain activities, such as wildlife watching, walking or cycling use biodiversity to attract customers. Without the birds, animals, plants and landscape which they make up, the attraction for tourists would disappear. Ironically, tourism itself can potentially impact the very resource which attracts visitors in the first place through activities such as skiing, off-road driving, rambling and boating.

Other links with biodiversity are less clear, but no less important. For instance bed and breakfast and hotel accommodation depends on biodiversity for the food served to guests and for clean water, which is provided by natural filtration systems. Many of the products which tourism uses or supports are based on natural products or produced in ways which impact on wildlife. For example, local foods, many handicrafts and souvenirs will be made from Scottish plants, animals, wood or wool.

The construction of tourism infrastructure such as airports, hotels, marinas, ski resorts and other buildings also impacts biodiversity. Using natural resources such as land, water and local resources can lead to the loss of wildlife, marine life, wetland, fertile soil and forests. Overuse of water resources by hotels, swimming pools and golf courses, or the pressure placed on energy, food and other raw materials also diverts natural resources away from wildlife.

Finally, tourism can cause water, air, noise and aesthetic pollution on global and local scales. For instance, through sewage waste disposal and littering in coastal areas; or jet engine and other transport emissions on global warming. Pollution damages wildlife, by destroying or fragmenting habitats and ecosystems, by reducing food and shelter availability and by harming the health of species.

Drivers

Security of Supply

The relationship between tourism and biodiversity is fragile. Tourism uses and affects the very resource that forms the basis of the tourism product. The consequences of biodiversity degradation or loss may only become apparent once it is too late and tourists have taken their custom elsewhere. While tourists are able to respond quickly when a destination loses its desirability, visitor accommodation and infrastructure is tied to a specific place. The effects of polluted coastal areas, deforestation or loss of wildlife can be felt very quickly as word gets out about disappointing destinations. One of the main reasons for tourism businesses to contribute towards the preservation of biodiversity is to ensure the sustainability of their

business by securing the supply of the product which many customers expect – a healthy and diverse countryside.

Reputation and image

A business's reputation is not only associated with the surrounding countryside, but with the practices of that business. The rise in environmental tourism agencies, schemes, web-sites and information attests to the fact that there is a growing market for more than just the 'natural experience' offered by Scotland's countryside. Many customers expect the facilities they use to exhibit responsible behaviour towards the environment, preferring to stay in accommodation which aims to save energy, reduce waste and minimise water use; using tour operators which minimise transportation related impacts and eating at restaurants serving organic or natural foods. There are a number of web sites and publications, and many organisations such as cycling or rambling associations, which specifically recommend 'green' facilities. Tourism businesses which can demonstrate their commitment and work towards biodiversity conservation through environmental or sustainable tourism schemes can benefit from a network providing publicity and advice.

Due to the growth in tourism development, and increasing political attention on the issues of sustainable development and biodiversity conservation, tourism and the environment have become major international issues with significant national relevance. Sustaining tourism business both in Scotland and abroad increasingly requires that every business understands and incorporates environmental concerns into its business practice.

Stakeholder relationships

Because of the boom in information technology, recommendations or warnings can spread within days, with potential impacts on customer numbers and bottom line results. For this reason, a tourism business needs to ensure that it maintains a good reputation with a wide range of stakeholders – from high-street travel agents or specialist tour operators to local councils and environmental groups. Each of these groups which interact with a business can potentially provide new clients or opportunities and influence the reputation of a tourism concern.

Financial gains and cost benefits

Many of the actions which a business can take to enhance biodiversity are low-cost or may even save money. For instance, energy use is tied to power generation through an industry that has a significant impact on biodiversity.

Negative impacts on biodiversity can lead to a decline in tourism business and ultimately reduced income. Remaining competitive through meeting the demands of an increasingly environmentally informed tourism clientele is central to sustaining one's tourism business.

What can you do?

As a business operating within the tourism industry, there are many ways in which you can make a positive contribution to the biodiversity of Scotland. A good way to start is to follow a framework such as the one outlined in this document, or that can be provided by some of the schemes and organisations listed at the end of this section under 'resources'. This will help

you to identify your impacts, come up with ideas for action, identify other organisations or individuals who can help and prioritise what you can do. By adopting a planned approach you will also be able to monitor and track your progress, which will be useful for gaining recognition for your actions.

This section outlines some of the types of activities which tourism businesses can consider undertaking as part of their overall management of the environment. This list is by no means comprehensive, but highlights good practice demonstrated by tourism concerns across Scotland.

Site biodiversity management

Whether you run a small bed and breakfast or operate a large recreational facility such as a camp ground or golf course, your business is most likely to involve managing some land holdings. Contributions to biodiversity can be through planting trees, shrubs, flowers or grasses; developing and maintaining ponds or wetlands; or erecting bird or owl boxes right in your own back garden!

Trossachs Holiday Park improved the attractiveness of the camping and caravan park near Aberfoyle while encouraging local biodiversity. The Park has planted over 20,000 trees around the 40 acre site and put up nest and owl boxes. Over 75% of the trees are indigenous broadleaf trees such as oak, ash, rowan and silver birch. The company's efforts have been awarded the Green Tourism Business Gold Award, Scotland's AA Campsite of the Year (2001) and a Gold Award in the David Bellamy Conservation Awards Scheme.

Many companies with substantial land holdings will need to enlist help from knowledgeable planning experts on how to manage their land for biodiversity. Expert advice is available from sources such as local Biodiversity Partnerships, Wildlife Trusts, or professional associations such as the Scottish Golf Wildlife Group. A good starting point to developing a Biodiversity Action Plan for your site is the Earthwatch Leaflet *Business & Biodiversity – Site Biodiversity Action Plans*, which provides a step-by-step framework backed up by case studies of what other companies have done.

Small companies may wish to start small, perhaps by enhancing biodiversity in a garden. Wildlife gardens are pleasant from an aesthetic perspective, and also provide a huge potential for enhancing biodiversity. Up to 60% of the UK's urban biodiversity can be found in backyard gardens, and habitats such as ponds or shrubs are particularly important wildlife havens. There are many web sites providing information on wildlife gardening and some useful links in Scotland include Garden for Life³⁵ and the North East Scotland Biodiversity Partnership's Home and Garden web page.³⁶

³⁵ http://www.butterfly-conservation.org/index.html?bcuk/scotland/garden_for_life/index.html

³⁶ <http://www.nesbiodiversity.org.uk/homeandgarden.htm>

The grounds of Scourie Lodge in Sutherland provide a comfortable retreat in the wilderness filled north-west of Scotland. Within reach of a number of wildlife attractions, the bed and breakfast's grounds are themselves a treat for people and wildlife visitors alike. The owners have put up bird and owl boxes in the small sycamore and pine woodland behind the main building, and their garden is teeming with wild flowers growing alongside organically grown vegetables served up at the dinner table inside the lodge.

Supply Chain Management

Every business uses products and services supplied by other businesses. By managing what you buy, how you use products and how you dispose of waste you can improve your own environmental performance and that of other companies, as well as contributing to biodiversity conservation and often reaping cost savings as well!

Many of the products which the tourism industry relies on have obvious direct links with wildlife and nature. The sections on the Food and Drink and Retail sectors in this document provide more detail about the linkages between agriculture, fishing, hunting and biodiversity. As a purchaser of products, you can make informed decisions about the products you buy and use for your tourism business. Companies with significant procurement requirements may also find that they are able to engage their suppliers by asking them questions about the effects of their business on biodiversity and requesting that they have environmental policies and plans in place.

As a tourism concern in Scotland you will inevitably also be asked to recommend or refer visitors to other attractions. By ensuring that the information you provide is for services or goods which do not impact negatively on biodiversity you are widening the potential for low impact tourism.

Managing environmental impacts

In addition to the more obviously 'naturally' derived products and services, there are many ways in which environmentally responsible actions can also contribute to biodiversity. For instance, the energy used to heat and light accommodation will come from the power generation industry. Conserving energy reduces CO₂ emissions, considered responsible for the increased rates of climate change, which are having adverse impacts on species, habitats and ecosystems. Recycling and waste reduction reduces the amount of landfill and potentially increases the amount of space which can be left for natural habitat conservation. More information on general environmental actions which you can take is available from sources such as Scottish Environment Link³⁷ and WECAN.³⁸

³⁷ <http://www.scotlink.org/ul.htm>

³⁸ <http://www.wecan.org.uk/index.html>

The Scottish Seabird Centre in North Berwick manages its supply chain at all levels through activities such as printing promotional material on 'environmentally friendly' paper; ensuring that building materials have minimal environmental impacts; engaging with suppliers for the centre's shop by asking to see their environmental policy; reducing energy use by utilising solar energy to power their remote cameras. The Centre's roof has been constructed using 'natural' timber trusses.

Awareness Raising

Tourists and visitors to your area are a captive audience for learning about Scottish wildlife heritage and biodiversity. Many visitors will be open to new ideas when they are on holiday. Visitor attractions or tour operators such as Edinburgh Zoo, Highland Wildlife Park, Bressaboats, Seaprobe Atlantis, and The Scottish Seabird Centre specialise in providing an educational experience through viewing and experiencing wildlife.

In addition to bringing visitors closer to wildlife, ecological tours and attractions may be able to include interesting information about biodiversity conservation issues in general, helping people to make links between their own environment, lives and communities. Many people's interests in wildlife watching and conservation arise as a direct result of the experience they receive from recreational activities and can lead them to begin acting responsibly with respect to the countryside themselves, as well as coming back for more of the experience. For instance, Mortonhall Golf Course in Midlothian has created a leaflet for players which points out the variety of biodiversity at each hole on the course. Since the leaflet was published, there has been a noticeable increase in the number of players who notice, comment on and even record wildlife sightings.

Edinburgh Zoo's Master Plan and Conservation Strategy includes plans to expose its 600,000 annual visitors to biodiversity and conservation issues. The zoo is re-organising its layout into marine, grassland, tropical and forest 'biomes' where animals are grouped by habitat type, sometimes mixed in together, like the existing grass-land enclosure. Additionally, displays on important issues, such as bush meat and tiger conservation have been installed in the Gorilla and Tiger areas. The zoo has recently begun to landscape one area with UK indigenous plants in order to inform children and adults about local biodiversity.

Informing visitors of your biodiversity activities and positive impact can directly benefit your business by increasing customers and revenues. For many tourism organisations, one way to do this is through linking with an award scheme, such as the Green Tourism Award, through which your business will receive acknowledgement that you can use to promote yourself. You may be included in listings on web sites or brochures and even receive funding for specific biodiversity initiatives. For more information about awards and schemes that you can join in Scotland see 'Awards' at the end of this section.

Working with stakeholders

Every business has stakeholders – customers, banks, suppliers as well as neighbours, competitors or regulators, all of whom will be interested in how the company operates and

performs. Working with your stakeholders can bring new ideas, expertise, publicity and support to your business. Ask them what they think about a particular biodiversity related initiative which you would like to become involved with, or for help finding information about what to do in your area. Some organisations specialising in biodiversity conservation can be particularly useful and you may wish to contact a local conservation group.

For many smaller tourism businesses linking up with forums such as the Tourism and Environment Forum or local sustainable business forums can be a good way to spread the word about what you are doing and attract new customers. Such networks are also valuable sources of current information about new opportunities, grants, trends and regulations.

Benefits

Good biodiversity management is good business for tourism companies. Through contributing to the conservation of biodiversity, tourism companies can improve the quality of the service or product provided, enhance their reputation, increase recognition, publicise themselves, save on costs and increase their income. Significantly, you can contribute towards making tourism in Scotland sustainable and guaranteeing the livelihoods of people who work within or benefit from the tourism industry.

Resources

UNEP Tourism Programme: Publications, events and information about sustainable tourism. <http://www.uneptie.org/pc/tourism>.

Benchmark Hotel: On-line tool for improving the environmental performance of hotels. <http://www.benchmarkhotel.com>.

Business and Biodiversity Resource Centre (Earthwatch): Information and publications on developing and implementing company biodiversity action plans and programmes. <http://www.businessandbiodiversity.org>.

Energy Efficiency Best Practice Programme: Provides information on how the hospitality sector can improve environmental performance and cost effectiveness. <http://www.actionenergy.org.uk>.

Green Globe - Green Globe 21 Path: An international membership scheme providing information and support for companies and destinations working towards sustainable tourism. <http://www.greenglobe21.com>.

Green Tourism Business Scheme: Step-by-step environmental accreditation scheme offering accommodation providers and visitor attractions guidance on adopting environmentally responsible practices. <http://www.green-business.com>

International Hotels Environment Initiative (IHEI): Promotes environmental management in the hotel industry. <http://www.ihei.org/HOTELIER/hotelier.nsf/>.

Project Acorn (British Standards Institute): Staged process designed to help small and medium sized enterprises improve their environmental performance and gain accreditation. <http://emea.bsi-global.com/Environment/Projects/Acorn.xalter>.

Scottish Golf Wildlife Group: Information and guidance on environmental management for Golf courses. The web site includes links to useful wildlife organisations and publications outlining step-by-step approaches to environmental planning and management. <http://www.scottishgolf.com/environment/index.htm>

Tourism and Environment Forum: Supports tourism related initiatives and provides members and visitors with information about sustainable tourism practices and programmes. <http://www.greentourism.org.uk>.

Tour Operators Initiative for Sustainable Development: Initiative developed by UNEP in co-operation with the World Tourism Organization (WTO) and the United Nations Educational, Scientific and Cultural Organization (UNESCO). Encourages tour operators to implement sustainable tourism practices through developing environmental policy and management systems. <http://www.toinitiative.org>.

WiSe (Wildlife Safe): A training and accreditation scheme aimed at operators of passenger pleasure craft, wildlife cruise operators, dive boats and charter yachts who may come into contact with marine wildlife such as whales, dolphins, basking sharks or seals. <http://www.wisescheme.org.uk>.

Awards

Dynamic Place Awards (Scottish Enterprise): Recognise excellence in the design and implementation of projects that enhance development of Scotland's urban and rural infrastructure. <http://www.scottishenterprise.com/businessdev/property/dynamicplaceawards/>. Email: mail@neilbaxterassoc.co.uk.

Marine Innovation Award (Highland Biodiversity Project): An annual award open to projects and companies in the Highland area that demonstrate innovation and best practice in the sustainable use of the Highland's coasts and inshore waters. E-mail: janet.bromham@highland.gov.uk.

Thistle Awards (VisitScotland): Annual Scottish tourism industry awards with several categories including Tourism and Environment. <http://www.scotexchange.net>.

Vision in Business for the Environment of Scotland: UK Award to businesses of all kinds for improving environmental performance. <http://www.vibes.org.uk>. Email: info@vibes.org.uk.

Interpret Britain Awards (Association of Heritage Interpretation): An annual competition to recognise and publicise outstanding interpretive practice in Britain and Ireland <http://www.heritageinterpretation.org.uk>.

Tourism for Tomorrow (British Airways): An annual international award for sustainable tourism. <http://www.britishairways.com/tourism/index.shtml>.

David Bellamy Conservation Award: Open to Holiday Parks (members of BH & HPA) who demonstrate a commitment to the protection and enhancement of the natural environment. <http://www.ukparks.com>. Email: enquiries@bhpha.org.uk.

Green Hotelier of the Year (International Hotel and Restaurant Association): An international competition for hotels and restaurants who can demonstrate how they are

promoting sustainable development while safeguarding local culture and protecting the environment. <http://www.ih-ra.com/awards/>.

Seaside Awards (Tidy Britain): Awarded to beaches that meet UK criteria for beach cleanliness. <http://www.tidybritain.org.uk>.

RETAIL SECTOR

Introduction

In Scotland alone, retail turnover reached £19 billion in 2002, making the retail sector one of the leading contributors to the Scottish economy.³⁹ With its wide-reaching links with developers, suppliers, the transport industry as well as customers, the retail industry yields a substantial influence over the way in which biodiversity is affected.

Retailers have significant influence over the indirect impacts of activities within their supply chains on biodiversity and landscapes. For food production and retail, the key impacts of the Convention on Biological Diversity (CBD) will be increased onus on producers and retailers to confirm that their products have been produced in a 'biodiversity-friendly' manner.⁴⁰

Through promoting sustainable production, and supply chain management and helping to change consumption patterns, the retail sector has the potential to make significant positive contributions to biodiversity conservation.

Uses of and Impacts on Biodiversity

Virtually every product available through retail outlets is derived through processes which will have some form of biodiversity impact. This is true not only of food products - which are linked closely to agriculture, fishing and game – but also of clothing, furniture, cosmetics and building materials. Other products like household appliances, toys, or electronic parts affect biodiversity partly through the way in the materials which they are made are obtained, for example through mining, or because their manufacturing process may impact on biodiversity, for instance by using water or discharging gases.

Many products purchased today also have an after-use life, primarily through waste. Waste may emerge in the form of the product itself, once it is no longer needed – such as disposable pens, nappies, photographic film etc. Waste is also generated through packaging – such as shrink-wrapping CD's or wrapping cosmetics or toys, as well as boxing pallets of

³⁹ The Scottish Retail Consortium, 2004. Homepage. <http://www.brc.org.uk/src.asp>

⁴⁰ IIED, 2003. Race to the Top. Tracking supermarket progress towards a greener and fairer food system. http://www.racetothetop.org/indicators/module5/page_1.htm

goods. Packaging in turn is produced from sources made of wood pulp or oil, with an impact on biodiversity at source as well as in the way in which the packaging is disposed of.

The impact of the retail industry on biodiversity therefore can primarily be seen through the supply chain of goods which are bought and sold. As a retailer, you can minimise impacts on biodiversity through the products you choose to stock, by looking at how they are produced, packaged and transported. You can also help to meet the growing demand for products that give consumers the information and features they need to make their own informed choices about environmental and ethical products.

Scottish shoppers are the most ethical consumers in the UK. According to a poll conducted by YouGOV in August 2003, 86% of Scots consumers prefer to purchase goods and services from companies that are socially and environmentally responsible. However, due to inadequate information Scottish consumers are finding it difficult to realise their aspirations.⁴¹

The amount of land used in retail constitutes a significant proportion of potential wildlife habitat in built up areas. There are more than 22,000 shops in Scotland, ranging from small corner shops to department stores. In 2000 alone, construction on 36 new retail centres was started and 44 developments began trading, covering a total of more than 400,000 square metres.⁴² All of these areas can create barriers for migrating wildlife and birds, disturb wildlife and divert natural resources from animals and plants. On the other hand, most new retail developments occur on 'brown-field' sites, predominately in West Lothian, Dundee, Edinburgh and Glasgow, providing genuine opportunities for enhancing or protecting animals and plants which have either adapted to built-up areas or could benefit from the regeneration of derelict land.

Brownfield sites are increasingly found to provide important niche habitats for flora and fauna in decline elsewhere due to the pressures of intensive agriculture and urbanisation.⁴³

The amount of building space occupied by retailers has implications not only for wildlife habitat, but through the resources required to support stores and associated infrastructure. The way in which buildings are designed and built determines the amount of energy needed to heat and illuminate buildings; maintenance requirements as well as the amount of waste water which is discharged. Furthermore, transportation to bring goods and customers to retail outlets demands a certain infrastructure of roads or public transport which likewise diverts space from natural habitats, requires resources to build and maintain and has implications in terms of CO₂ emissions and therefore climate change. In the retail industry,

⁴¹ BBC News Scotland, August 2003. Ethical consumers 'being let down'.
http://news.bbc.co.uk/2/low/uk_news/scotland/3162547.stm.

⁴² Scottish Executive, 2003. 2000 Retail Development Survey. Scottish Executive Development Department, January 2003. <http://www.scotland.gov.uk/planning>.

⁴³ SEPA 2003. SUDS Advice Note – Brownfield Sites.
<http://www.sepa.org.uk/publications/leaflets/suds/brownfield.pdf>.

deciding where and how to sell goods has biodiversity implications which are inherently linked with other parts of the economy.

Retail outlets also play an important role in economic and social development of both rural and urban areas. Landscaping with biodiversity in mind provides an opportunity to enhance rather than detract from biodiversity as well as improve a community aesthetically. In urban areas where green spaces are limited, shops and shopping centres can provide important wildlife refuges or 'green lungs' which improve a neighbourhood's appearance and also benefit biodiversity.

Drivers

A study by KPMG has shown that retail companies can enhance their business performance by managing and reporting on their environmental and social performance. Brand value and reputation are enhanced through good sustainability performance, leading to increased profits. Equally, financial markets, employees and customers respond positively to good sustainability performance.⁴⁴ Companies which do not meet public expectations face the risk of criticism, campaigns and boycotts.⁴⁵

Despite the importance of reputation to retail companies, the sector traditionally lags behind in terms of reporting on social and environmental performance. A Sector analysis of the Global Fortune 250 (GFT 250) by KPMG showed that only 15% of the retail companies had published reports, and of these, only 27% included information on biodiversity. This compares with reporting on ISO certification (73%) and supply chain (64%).⁴⁶

Few people would associate doing their laundry or eating ice cream with biodiversity loss but recent research into palm oil, a key ingredient in many products from cosmetics to foods has linked its cultivation to environmental degradation. A recent report by ISIS Asset Management, one of the UK's largest investment companies and a specialist in Socially Responsible Investment, reveals that many companies surveyed are not aware where they are sourcing this important ingredient. Robert Barrington, ISIS Director of Governance & Socially Responsible Investment points out that 'pressure groups are becoming increasingly sophisticated in their understanding of complex supply chains - which is bad news for companies that are not on top of the issue.'⁴⁷

⁴⁴ KPMG, 2003. Best Practice for the Retail Sector. Briefing on KPMG's Corporate Sustainability Reporting Survey 2002.

⁴⁵ See for example the Ethical Consumer web site <http://www.ethicalconsumer.org/>.

⁴⁶ KPMG International Survey of Corporate Sustainability Reporting, 2002. The Netherlands.

⁴⁷ ISIS Asset Management, 2003. New risks in old supply chains: where does your palm oil come from? <http://www.isisam.com>.

The retail sector is considered by many to be the 'gatekeeper' between the production process and consumption patterns. As such, more and more emphasis is being placed on the role which the sector has in determining the way in which products are produced as well as what merchandise actually makes it off the shelves and into the hands of consumers.

"On the one hand, the retail sector can influence suppliers to produce in a more sustainable manner - raising questions of resource and energy use for example. On the other hand, the sector is in a unique position to help the public to adopt more environmentally friendly lifestyles and purchasing habits by providing customers with an appropriate choice. *Klaus Toepfer, UNEP Executive Director*".⁴⁸

What can you do?

Retail companies in Scotland have the potential to make a substantial positive contribution to biodiversity through managing their supply chain, working with building and infrastructure providers and engaging their customers. For companies in the retail sector, be they land managers, mall operators, shop owners or wholesalers, the starting point will normally be to draw up a policy which states the company's overall biodiversity impacts and intentions, and then to follow a plan to implement this policy through a variety of activities involving suppliers, customers, employees and other stakeholders.

Land Securities, the owner/operator of over 40 retail facilities across the UK, including four in Scotland, has an Environmental Policy which includes a statement of commitment to biodiversity conservation, and has developed a Biodiversity Policy. Land Securities is one of the first companies to sign up to and pilot the new Wildlife Trust Biodiversity Benchmarking Standard, through which it intends to assess all of its retail centres by summer 2005. Taking this first step is an important commitment, and enables Land Securities to begin the practical task of delivering their policy through their business.

Supply Chain Management

Across Europe, retailers are increasingly managing their supply chains in order to comply with legal requirements and ensure quality, and developing good relations with suppliers is paramount to any retailer's success. Research suggests that the best way to foster good working relationships is through engaging with their suppliers by ensuring effective communications, building trust and working together. Those organisations whose supply

⁴⁸ UNEP 2003. Shopping for a Better World.
<http://www.unep.org/Documents/Default.Print.asp?DocumentID=321&ArticleID=4019>.

chain is made up of many suppliers increasingly need to work together with the providers of raw materials, merchandise or services to help secure the timely delivery of their orders.

Organisations with long and complex supply chains, whether they are at the beginning (such as chemicals), in the middle (such as logistics companies), or at the end (retail businesses) of the supply chain, are increasingly needing to understand sustainability aspects of their supply chains.⁴⁹

Understanding the supply chain's impact on biodiversity requires looking at the way in which final products are produced, packaged and transported. The depletion or damage of resources anywhere along a product's life-cycle can threaten the availability of that product. For instance, unsustainable use of forests can lead to the interruption of any products derived from wood – from furniture through to wrapping paper! This supply can be affected not only by depletion of the resource itself, but because legislation or public pressure impede a supplier's ability to deliver or hence to operate.

How good are natural products?

Nearly 20 million tonnes of cotton are grown each year and spun into yarns for everything from jeans to table-cloths. The cotton plant, *gossypium*, whose natural fibres revolutionised the clothing industry, has spun itself a reputation as the natural material. However, cotton shows how not everything that is 'natural' is necessarily good for the environment. Globally around 25% of insecticide and 11% pesticide use is attributed to cotton-growing. It is a very thirsty plant, requiring ample irrigation, which has been attributed to draining of the Aral Sea in Uzbekistan and leading to the destruction of an entire ecosystem, with consequent severe impacts on biodiversity. Conventional cotton milling and processing can also be damaging to biodiversity through effluents draining into water and the surrounding environment.

Cotton production accounts for around 25% of the World's insecticide use, a figure which has huge environmental and social impacts. In response to these and other impacts associated with cotton production a number of global organisations including Nike and Timberland have come together to evaluate the supply chain of this material and commit to increasing the use of organically produced cotton. Marks & Spencer have committed to sourcing 5% of their total cotton supplies from organic sources within 10 years.

The basic principle behind supply chain management is engagement through setting minimum standards, asking suppliers questions, discussing ways in which to improve their

⁴⁹ SIGMA, 2001. Supply Chain Strategy and Evaluation. First Report by Professor Martin Charter, Aleksandra Kielkiewicz-Young, Alex Young, and Andrew Hughes, The Centre for Sustainable Design, January 2001. http://www.projectsigma.com/RnDStreams/RD_supply_chain_strategy.pdf

performance and providing support to implement measures to reduce impacts on biodiversity. Procurement policies should at least require compliance with legislation, but can also request information about certification and accreditation of a supplier's products and processes. Some companies publish supplier codes of conduct and run workshops to help their suppliers to better understand what biodiversity is, why it is important, and what measures they can take to make a positive contribution to conservation. However, the key to improving the biodiversity performance of suppliers will ultimately be providing an incentive through demonstrating real benefits to the company such as future contracts, improved efficiency or better productivity through heightened employee morale.

One constructive way in which companies can improve biodiversity performance of their suppliers is through becoming involved in supply chain forums. Companies invite their suppliers to participate in a partnership and improve business efficiency through exploring ways in which to buy from sustainable sources. One high street retailer has been reported to have identified potential savings throughout their key supplier network of over £200,000 and is now looking to involve more of their suppliers.⁵⁰

The vast majority of Marks & Spencer's environmental impact is attributable to its products and supply chains. Being able to trace the products back to source is key managing these impacts. Wherever a significant sustainability impact is identified Marks and Spencer aims to support best practice, e.g. MSC fish, FSC wood, avoid worst practice and to work with the rest of our supply chain to improve their performance.

The company has carried out a comprehensive analysis of its major biodiversity impacts and is focusing on three key raw materials: fish, wood and cotton. Marks & Spencer has worked with a wide range of stakeholders including NGOs, customers and suppliers to find innovative ways to meet the sustainability challenges set by these raw materials and is now implementing a comprehensive programme with its global suppliers to ensure their targets are met. Biodiversity is also a key consideration in Marks and Spencer's industry leading policies on the reduction of pesticide use in food production, the total avoidance of genetically modified foods and feed and the recently introduced 'field to fork' farm standard for all of its fresh produce growers globally which includes a specific section on biodiversity conservation.

In addition to reducing the impacts on biodiversity of the materials and processes used in producing goods, supply chain management can help achieve the other of the three objectives of the CBD. For instance, integrating biodiversity into a company's socially responsible purchasing policy can help to ensure against exploitation of labour at the same time as meeting the objective of equitable sharing of benefits derived from biodiversity.

⁵⁰ British Retail Consortium, 6 February 2003. Environmental Best Practice. <http://www.brc.org.uk>.

Development and Landscaping

The buildings which retail outlets and warehouses occupy impact on biodiversity through their location, the way in which they were constructed and the management of the facilities themselves. Biodiversity can be enhanced by ensuring that buildings meet sustainable building standards and are landscaped with biodiversity in mind.

Centre managers can help tenants understand the benefits of energy reduction or landscaping measures, creating knowledge about wildlife amongst retailers. Shop space occupiers can request that centre managers abide by certain criteria which are helpful to biodiversity. Taken together, measures not only improve the way in which shopping centres may appear, but enhance the reputation of a centre and can potentially attract more customers.

Several sources are available to help retail companies assess, manage, reduce and monitor their environmental impacts, including biodiversity impacts. The Building & Research Establishment Environmental Assessment Method (BREEAM)⁵¹ for retail provides retailers with a tool for evaluating and improving the environmental performance of their facilities. General information about managing the landscaping around a site – be it a shopping centre, a department store or even a small shop adjacent to a car-park – is available in the Earthwatch Institute (Europe) publication *Business and Biodiversity- Site Biodiversity Action Plans*⁵² For more information about sustainable building guidelines, including considerations for wildlife in the construction industry refer to the CIRIA (Construction Industry Research and Information Association) and BRE (Building Research Establishment) web sites.⁵³

Awareness Raising

Everybody can contribute to the improvement of biodiversity through their lifestyle choices and behaviour. Shopping arcades, centres and malls attract thousands of visitors per year across the UK and Scotland, and provide an opportunity for general public awareness-raising about the importance of wildlife and nature conservation and responsible behaviour towards biodiversity. Retail facilities have a captive audience for staging specific events, perhaps inviting local conservation groups to set up displays to explain about biodiversity, or publishing materials such as newsletters or web sites which explain about biodiversity, especially in the area where a retail concern is located.

As a shopping centre manager, if you have an environmental policy, you will no doubt want to tell your tenants about the measures you are taking. This may be through a tenant's handbook, regular newsletters or by talking to your tenants. Many of the measures you are

⁵¹ For more information see <http://products.bre.co.uk/breeam/retail.html>.

⁵² Copies of this publication are available from <http://www.earthwatch.org/europe/publications.html> or from Earthwatch Institute (Europe).

⁵³ <http://www.ciria.org/> and <http://www.bre.co.uk/>.

taking will be having a positive impact on biodiversity which you can draw out and explain in an engaging way. Highlighting individual store-owners' contributions, for example through an environmental purchasing policy, may encourage others to follow suit.

Individual retailers can provide shoppers with information about the products they are purchasing and the stores they are buying from, helping them to make choices about what to buy and informing them of important issues which affect their lives. Many products now include details of their origin on their labels, and other suppliers can provide leaflets and information packs about their products. This information can be used by shop management to decide what to stock, and by customers to choose what they buy – and where they buy it!

B&Q, the biggest DIY retailer in the UK and with stores around the world in countries such as China and Taiwan, has been working to reduce the environmental and social impacts of its business for over 12 years. Its policies are available for general information from the company's web site,⁵⁴ along with fact sheets covering key areas such as product and supplier impacts, ethical issues in its supply chains, the way B&Q interact with the communities around their stores and their approach to diversity. B&Q has received recognition through a number of awards for its approach. In Scotland, B&Q operates 32 outlets, and all stores work hard to reduce their environmental impacts and to develop good relationships with their local communities.

Spreading the word

Producers and suppliers have numerous options available to them to communicate what they are doing including labelling, advertising and marketing, public relations exercises and reporting. There are currently around 35 standardised labelling schemes around the world addressing either single issues, such as the Forest Stewardship Council (FSC)⁵⁵ label on timber products or the Marine Stewardship Council (MSC)⁵⁶ label on fish produce, or multiple issues such as the EU eco-label, which covers impacts of a product across its whole life-cycle. Some schemes offer a rating system marking products on their environmental performance against other brands. Eco-profiling schemes list factual information in a standardised format (for example the current UK voluntary car labelling scheme, which shows fuel efficiency and emissions).⁵⁷ In the UK, the Wildlife Trusts Business Biodiversity Benchmark⁵⁸ allows companies to self-assess and then verify their biodiversity impacts and actions. Companies which obtain the benchmark can use it to demonstrate their biodiversity commitment to customers.

⁵⁴ <http://www.diy.com/socialresponsibility>

⁵⁵ <http://www.fsc-uk.info/>

⁵⁶ <http://www.msc.org/>

⁵⁷ EuGeos Limited, 2002. <http://www.btinternet.com/~foster.enviro/web/envirocomm/productdecl.htm>

⁵⁸ <http://www.biodiversity-benchmark.org/>

In addition to labelling, companies can provide stakeholders with information about their operations and products through their environmental or annual reports as well as participating in indexes such as Business in the Community's Business in the Environment Index, which includes questions specifically pertaining to biodiversity.⁵⁹

Benefits

The retail sector relies on a steady supply of two things: products and customers. Good biodiversity management and practice can help to secure both of these by ensuring that the environment from which many products are derived remains healthy and productive, and by maintaining a good image among a company's clients. While smaller shops and retail businesses will benefit from their biodiversity activities through improved customer and community relations, the corporate retail sector by reporting on their biodiversity work is also addressing concerns expressed by major stakeholders such as investors and consumer pressure groups.

Resources

BRE (Building Research Establishment): BRE is the UK's leading centre of expertise on buildings, construction, energy, environment, fire and risk. It provides research-based consultancy, testing and certification services to customers world-wide. <http://www.bre.co.uk>.

The **British Retail Consortium (BRC):** provides information and publications on Environmental Best Practice and Consumer Awareness Initiatives. <http://www.brc.org.uk/policymaster.asp?id=43&sPolicy=ENVIRONMENT>.

CIRIA (Construction Industry Research and Information Association): hosts the Construction Industry Environmental Forum (CIEF), which helps companies involved in construction improve their environmental and sustainability performance. <http://www.ciria.org/> and http://www.ciria.org/cief_intro.htm.

Earthwatch Institute (Europe): provides companies with information about biodiversity through a web site and publications. <http://www.businessandbiodiversity.org>.

Ethical Consumer: a consumer organisation looking at the social and environmental records of the companies behind the brand names. <http://www.ethicalconsumer.org/>.

Green Consumer Guide: provides information on environmental, ethical, sustainable products and services. <http://www.greenconsumerguide.com/index.php>.

Organic Exchange: is a resource for companies and consumers interested in organic cotton. <http://www.organicexchange.org/>.

⁵⁹ For more information see http://www2.bitc.org.uk/programmes/programme_directory/business_in_the_environment/bie_index/index.html.

Scottish Retail Consortium: retail trade association of Scotland.
<http://www.brc.org.uk/src.asp>.

WWF Group 95: was founded in 1991, and is a partnership between WWF and businesses to promote responsible trade in and management of forests and their products.
<http://www.wwf-uk.org/95+group/>.

Awards and Certification Schemes

Forest Stewardship Council (FSC): is an international, non-governmental organisation dedicated to promoting responsible management of the world's forests. FSC has developed a system of forest certification and product labelling that allows consumers to identify wood and wood-based products from well-managed forests. <http://www.fsc-uk.info/>.

The European Eco-label: is a voluntary scheme enabling European producers to show their consumers that their products respect the environment.
<http://europa.eu.int/comm/environment/ecolabel/>.

EU Award for the Environment (Sustainable Development): recognition and promotion of companies that integrate sustainable development into their activities. http://www.eu-environment-awards.org/environment_awards.asp.

Queen's Award for Enterprise – Sustainable Development: award for businesses that achieve an outstanding advance or a continuous achievement in sustainable development.
<http://www.queensawards.org.uk/sustainabledev.htm>.

FOOD & DRINK

Introduction

Arbroath smokie, the oatcake, Scottish beef, Scotch broth, Scottish salmon, haggis, the Scotch pie, porridge, Scotch whisky, Scottish beers and ales, and the hot toddy are just some of the renowned food and drink produce of Scotland. The Scottish food and drink industry produces some of the finest delicacies in the world, earning itself an international reputation for quality and excellence. The industry is also a major contributor to the Scottish economy, with sales in excess of £7 billion per year and employment opportunities for almost 17% of the Scottish manufacturing sector. Thousands of people's livelihoods depend on the food and drink sector, which includes farmers, manufacturers, distributors and retailers for everything from growing produce and sourcing of raw materials through to processing, packaging and waste.⁶⁰

Besides playing a critical role in supporting the health of the Scottish economy, the food and drink industry has a major role to play maintaining the health of Scottish people and the environment. Conversely, the high quality of much of Scotland's produce is linked directly to clean waters, healthy habitats and an abundance of plants and animals. Safeguarding these natural assets builds the competitive advantage for Scottish food and drink companies, and ensures the long term survival of their businesses.

Uses of & Impacts on Biodiversity

The food and drink industry is almost entirely dependent on agriculture and aquaculture, which in turn requires natural resources, processes and a genetic base for crops. Healthy ecosystems and the biodiversity within them are essential for long term sustainability. Farming has historically played an important role in shaping the Scottish countryside and farmers have a great record of looking after Scotland's rural environment. Areas valued by visitors and important to conservation, such as designated Sites of Special Scientific Interest (SSSIs) owe much to rural management by Scottish farmers. Rivers, river banks, burns and drainage systems designed for agriculture are key features of Scotland's farmed landscape and support a wide range of biodiversity.

"Increasing agricultural productivity ultimately means channeling more of the sun's energy into the human food chain, therefore leaving less for the rest of the plant and animal kingdom. Changes in bird numbers are probably the best-documented indicator of how other species have lost out. Farmland bird populations have declined by an average of 40% since 1970. A staggering 5 million skylarks are estimated to have vanished in the past 30 years as a result of

⁶⁰ <http://www.scottish-enterprise.com>.

agricultural intensification".⁶¹ *Speech given by Sir John Krebs, Chair of the Food Standards Agency at Queen's University, Belfast, 5 November 2003.*

Many species have adapted specifically to the agricultural landscape – such as the bird species linnets, lapwing, skylark, and corn-crake. Much of the Scottish countryside today is shaped by farming.

Farming can impact biodiversity in a positive or negative way, both on and beyond the farm. Many 'modern' agricultural methods have led to the enlargement of fields, increased use of inputs such as fertilisers, sheep dips and pesticides and more intensive use of land. Off the farm, agriculture is responsible for water abstraction, energy production and consumption of other resources. For instance, petroleum-based products, such as pesticides, rely on extractive industries which themselves impact on biodiversity. Additionally, run-off from farmland which includes pesticides can have polluting effects on the surrounding countryside and the biodiversity which exists within it.

In addition to domesticated crops and livestock, wild food sources, such as game and fish, also impact on biodiversity. Cod fishing in the North Atlantic, over-exploitation of wild salmon and harvesting of shell-fish are but some examples where unsustainable practices have led to depletion of stocks and consequent ecological, economic and social consequences.

Over 3.5 million hectares of Scotland's land holdings are used for game or hunting. The British Association for Shooting and Conservation (BASC) (Scotland) has been working with landowners and others to encourage enhanced biodiversity and to improve the conservation status of many areas, as well as secure sustainable wild stocks. According to the BASC, there are definite and undeniable benefits to wildlife where land is properly managed. This relies on good habitat management and a managed pest and predator population.

Marks & Spencer recognises that the sustainability of their company's business relies on biodiversity. Over 40% of the company's sales are derived from the sale of food and drink, all marketed under the company's own brand. There is a clear business case for the company to develop processes which ensure a sustainable supply of quality foods, both to secure the products of the future and to enhance the company's brand values of quality and trust.

The sustainability of commercial fisheries is a major issue facing food retailers today. As part of its sustainable fish sourcing strategy Marks & Spencer identified the Scottish Haddock fishery as one in which the environmental, social and economic factors could be improved for mutual benefit and is now leading a project which aims to maximise haddock catch and

⁶¹ <http://www.foodstandards.gov.uk/news/newsarchive/krebsspeech051103>

reduce cod by-catch. Work with the Sea Fish Industry Authority (Seafish) and Seafood Scotland and jointly funded by Marks & Spencer, Scottish Enterprise and Cavaghan and Gray aims to help preserve Scottish fish thus protecting the livelihoods of fishing communities in the North East of Scotland. Increasingly skippers who share the Marks & Spencer approach to sustainable fishing are being contracted for Marks & Spencer products - joining their land-based colleagues in Marks & Spencer beef and pig farms throughout Scotland.

Other stakeholders in the food industry, particularly processing, manufacturing and retail markets, also impact on biodiversity. Food production companies can make a difference in terms of where and how they source the food they produce as well as through their packaging and transportation decisions. Food production consumes resources such as water and is also associated with waste by-products, some of which can be contaminated with pesticides or fertilizers. When present in high levels of concentration, such as may be the case in a food processing concern, the disposal of food waste is a serious consideration for food processing companies. Using organic foods and minimising refuse through composting schemes can reduce waste, at the same time providing valuable inputs back to agriculture.

Most food-packaging today comes from paper or plastic products and includes everything from the wrappers on sandwiches or crisp-packets through to cellophane wrapping on pallet - loads of cereal boxes! Paper and cardboard sources vary from those made of wood pulp coming from a variety of forests, to recycled paper. Plastics impact on biodiversity through the oil-production and processing business and also because of the challenges associated with disposing of them afterwards.

Tetra Pak is a privately-owned multinational Swedish company and one of the world's largest suppliers of packaging systems for milk, fruit juices and drinks, and other products.

It is Tetra Pak's ultimate goal that all the wood fibre in their liquid packaging board shall come from, and be able to be shown to come from, forests managed in accordance with the principles of sustainable forest management. The company has a three-step plan for achieving this; the first step, ensuring that no wood originates from illegally harvested sources, intact natural forests or conservation forests, has already been achieved.

The company has set a target for the average recycling rate of Tetra Pak's global post-consumer beverage cartons to increase from 13% in 2001 to 25% in 2008. Tetra Pak UK have commissioned the Smith Anderson carton recycling plant in Leslie, Fife which became fully operational in November of 2003. This plant has the capacity to reprocess 20 % of all the liquid food and drink cartons in the UK market.

Tetra Pak also provides a range of services to help customers improve their environmental performance through:

- Post consumer packaging waste recovery/recycling expertise;
- Support on waste reduction efforts and production planning;
- Support on implementation of environmental management systems;
- Providing general and product-specific environmental information.

During the twenty years from 1978, food miles – the distance which food is transported - increased by 50% in the UK and now some 40% of all road freight is food. International food transport has nearly doubled. The distance food is shipped not only influences biodiversity through the transportation process itself – through fuel consumption and pollution, the provision of transport infrastructure and effects of pollution. Biodiversity is also affected because of the way in which food which travels long distances has to be prepared and packaged. The global food market additionally places demands on growers supplying supermarkets, who are expected to deliver uniform-quality products with a long shelf life. This can make business for specialist producers, such as organic farmers difficult and may result in wastage of non-standard products.

Acting between growers and manufacturers of food on one hand and consumers on the other, the food retail sector is in an influential position. It can encourage sustainable land management practices and production methods by engaging suppliers and also help educate the public about sustainable food sources.

Leading supermarkets (...) and other processors, retailers and caterers are showing increasing interest and acting on the setting up of industry standards for the protection of biodiversity and other environmental assets. They are also influential in controlling certain types of inputs such as pesticides.⁶²

Drivers

In order to secure sources of food and drink, the sector relies on sustainable sources of supply. One of the leading sources which the sector is dependent upon is agriculture, which cannot be regarded as sustainable if it destroys biodiversity. The farming sector requires sufficient income to survive. Economic and social stability of the rural sector relies not only on present productivity of the land, but on the ability of the sector to ensure long-term productivity as well as building sustainable rural environments which support a mix of economic activities.

There is a high correlation between risk and environment – or between securing supply of inputs and environmental dependence. Reducing risks in the industry is concerned with ensuring a healthy and sustainable food chain in order to secure good quality and consistent supplies of food. The future of successful food businesses lies in managing risks and looking for new opportunities resulting from changes to subsidies, new regulations concerning health and safety in farming and changing growing conditions.

Sustainable food growing, processing and marketing practices provide opportunities for supporting biodiversity which can help to ensure the availability of healthy and safe foods.

⁶² English Nature. 2001. Sector Analysis: Agriculture.
<http://www.english-nature.org.uk/about/sector/default.htm>

Scotland's Food and Drinks Strategy sets ambitious targets for the sector. Already food and drink contributes £7.3 million to the Scottish economy, employing 17% of the manufacturing work force. In the words of Ross Finnie MSP, Minister for Environment and Rural Development:

If [the strategy's] targets are to be achieved, the food and drink cluster must develop powerful networks to share knowledge and intelligence, which embrace all sectors of the industry - including agriculture, fishing and aquaculture, food and drink processing, the whisky industry, retailers, science and education. Government also needs to play its role in working closely with all partners to help the industry grow and develop.⁶³

Preserving and enhancing biodiversity – in Scotland as well as globally - fulfils one of the requirements for ensuring the sustainability of this vision and delivering it on the ground. The sector must work together to provide the clean, pure natural environment which to date has provided high quality food with a competitive edge in today's marketplace.

What can you do?

Many companies in the food and drink sector are already considering their impacts and ways in which they can positively contribute to biodiversity. Biodiversity-conscious producers and sellers share a commitment to sustainable development and food sourcing, and conviction in a holistic vision of food production which encompasses not only environmental factors, but social and economic ones as well. Importantly, they demonstrate willingness and enthusiasm to share experiences in increasing sustainable production methodology.

Planning for biodiversity

The first step for any business, regardless of its size, is to start planning for biodiversity. An overview of the process is available in the General Framework section of this document and from the business and biodiversity web site⁶⁴ and will include assessing impacts, priorities and a base-line survey of what is currently available.

Businesses owning or responsible for land-holdings, such as farms, will be able to plan activities for managing this land in ways which encourage biodiversity. In Scotland, grants are available from a number of sources, such as the Rural Stewardship Scheme, which provide guidance as well as funds for managing land on which to implement conservation programmes.

⁶³ Susan Beattie (1998) The Big Opportunity. Scottish Food and Drink. Scottish Enterprise.
<http://www.scottishfoodanddrink.com>

⁶⁴ <http://www.businessandbiodiversity.org>

The driving principle behind Balliefurth Farm of Speyside is holistic thinking, where the environment is viewed as a business 'output'. The farm has drawn up a habitat management plan where the land is not only farmed in a sustainable way but is managed to encourage a variety of birds and wildlife.

The habitat management plan evolved out of an examination into management practices and looking at partners or schemes available which could help carry out different activities. Linking with the Rural Stewardship Scheme, the Cairngorm Straths Environmentally Sensitive Area (ESA) scheme, the LBAP (unharvested crops for birds), and with an RSPB management agreement, the farm drew up plans including:

- grazing and rotation practices that encourage birds;
- woodland management and planting native species;
- planting water-tolerant grasses and reeds.

Species and habitats that occur on the farm or adjacent to it have been clearly identified, and their LBAP priority status identified to inform and prioritise management. The list of species which are found on the 419-acre farm shows that this is one of the best breeding sites for wading birds in the UK!

For many non-agricultural companies in the food and drink sector, the main impacts on biodiversity will be through engagement with suppliers, employees and conservation related organisations. Supply chain management is covered extensively in the Retail Sector of this document and additional information can be found about this and other specific activities for biodiversity on the business and biodiversity web site's **Take Action** pages.

For some companies wishing to follow existing standards certification to standards such as GRI, ISO 14001 or EMAS proves to be an effective way through which to plan, implement, review and gain recognition for their overall environmental management including biodiversity. Other companies find that it is more appropriate for them to include biodiversity in their existing management systems which may not only cover environmental factors but also human resources, procurement, facilities management and other management systems.

Holistic thinking

One of the first steps towards improving biodiversity through the food and drinks sector is to begin to understand where your company fits into the whole picture from rural communities and the production systems supporting their economies through to end-consumer markets. For companies positioning themselves inside a sustainability framework, biodiversity becomes an intrinsic part of doing business, with benefits flowing to both the company as well as to biodiversity.

Driven by a philosophy of total sustainability, Loch Fyne's guiding principle is one of respect for the animal and for its habitat. A holistic approach underpins this vision and, according to plaques posted on its shop and restaurant walls, the company undertakes to:⁶⁵

- ensure that the environmental impact of our activities is at least neutral and strives to be positive;
- actively work to enhance biodiversity and
- underpin the economy of the community by the provision of skilled work, fairly rewarded and in line with the traditions of the locality.

As the driving philosophy behind all of its actions, the company has set targets to neutralise its environmental footprint by 2005 and ensure that its operations are non-polluting, and use renewable energy.

Mackies of Aberdeenshire started to work on countryside conservation with the desire to enhance the countryside. The farm and ice-cream business are economically driven, and today the farm aims to combine environmental farming with profit making, using grants where they are available to enhance the countryside. Extensive areas of tree planting, hedging, and field margins have been established around the farm and land management techniques with reduced fertiliser input have raised soil biodiversity with resultant benefit to other wildlife populations.

Working with stakeholders

A complex and long chain of relationships from producer to consumer means that networking and working with others is one of the keys to success in the food and drinks industry.

As the gatekeepers of the modern food system, retailers are in a prime position to encourage their suppliers to adopt more sustainable production methods, to bring real biodiversity benefits.⁶⁶

Engagement with suppliers provides a powerful mechanism not only for spelling out what is required by them, but opening dialogue about sustainable production methods and ways in which to improve biodiversity performance. Suppliers can gain insight into and support for new products or innovations through working with their clients, helping to test out new products and ideas before making investment commitments.

Collaboration between the fishing industry, retailers, NGOs and government agencies provide a case in point of how joint programmes can benefit businesses all along the supply

⁶⁵ <http://www.loch-fyne.com/pages/content.asp?PageID=63>

⁶⁶ http://www.racetothetop.org/indicators/module5/page_1.htm

chain while developing new methods for meeting food requirements for existing as well as future demands.

Marks & Spencer has been working with the Sea Fish Industry Authority (Seafish) and Seafood Scotland to help preserve Scottish haddock through a programme which aims to restore fish populations, institute sustainable fishing methods and protect the livelihoods of fishing communities in the North East of Scotland.

Unilever joined up with WWF to set up the Marine Stewardship Council (MSC) and develop a process of identifying sustainable sources of fish. The MSC's certification standard has been adopted by a number of companies purchasing fish, including Unilever which has set itself specific targets to source fish from sustainable sources.

Together with NGOs and local organisations, Loch Fyne Oysters is helping to realise a vision of sustainable food provision. The company contributed 50% of the funding to the Marine Conservation Society to develop the Good Fish Guide.⁶⁷ It imposes a voluntary 3% levy on its own turnover to support habitat work for migrating fish through the Loch Fyne Marine Trust. Providing opportunities for small local food producers is also part of the company's ethos, and has not only developed a distribution network for the Scottish fish products, but regionally produced lamb and beef too. All sorts of organic and local produce is available through the Loch Fyne shop and on-line store as well as from the weekly local farmers market held directly in the company's car park. Asked whether hosting the market detracts from its own business, one of the company's directors reported that he is delighted to help the local market and would encourage anyone who would like to better understand the company's approach to sustainability, needs help getting going, or is interested in his suppliers' network to simply call him!

Many sources are available to businesses to help assess their biodiversity impacts and look at ways in which to improve biodiversity. One of the first sources may be the local biodiversity partnership. For example, the North-East Biodiversity Partnership is working with Mackies Ice-cream; North Lanarkshire with Safeway and the Highlands and Shetlands partnerships are involving the fishing industry through their marine programmes. Local branches of environmental groups, such as the RSPB or Plant Life also have specific expertise relevant to business' biodiversity needs.

In any area there are many different organisations which a company can link up with in order to explore issues and solutions about biodiversity. Working with such groups through networks and forums helps keep one's finger on the pulse of what is going on and share resources, experience and knowledge.

⁶⁷ Clarke, B. (2003). Good Fish Guide (2nd Edition). Marine Conservation Society, Ross-on-Wye, UK.

Marketing biodiversity

Many companies realise that Scotland's landscape and environment provides unique marketing opportunities for their products. Additional opportunities exist to enhance the product value through employing sustainable practices which improve the quality of the foods and drinks produced.

Shieldaig Export of Ross-shire realise that sustainable fishing practices have real financial benefits. The company has been working with the Highlands & Islands Fishermans Association to establish a three-zone fishing system permitting creel, mixed and trawler fishing in different areas. Agreement was reached after fifteen years of negotiation between HIFA, Mallaig and North West Fishermen's Association and the local council. The operations have shown that the benefits of Creel fisheries are that they are not only more ecologically sustainable, but far more lucrative and economically sensible than trawl fishing. Price for live creel-caught langoustine is about 400% more than the dead, trawled langoustine. Shieldaig produce is MSC certified and has won the Biodiversity Accolade in the 2002 round of the Highland Marine Innovation Award.

Certification through food labelling schemes can also be a valuable instrument for marketing products and building up brand image. Labels can help build consumer confidence in products and help to differentiate them from other similar products.

Nestled into the coves of the north-west of Scotland, Loch Duart has developed a marketing concept to sell 'salmon-tasting salmon with a difference'. Having combined environmental commitment and innovation to develop a unique new salmon-production method which employs 'fallow' bays, the company's management began to look for ways of marketing their product. This required some form of recognised accreditation and the company worked with the RSPCA to develop a Freedom Food standard for salmon. 'In the end,' says Managing Director Nick Joy, 'Welfare and quality are correlated.' While there have been incremental costs in applying new criteria to fish farming, Loch Duart still successfully produces around 1,800 tonnes of fish per annum. Through investing in sustainability as well as raising brand and marketing awareness for their products the company sells to specific markets in the UK and overseas which recognise the high quality of sustainably farmed salmon.

Employee Innovation

Many companies have found that biodiversity provides a powerful medium for engaging employees and motivating them. Many companies today are competing for a highly qualified work force with high expectations of their employers. With environmental awareness and concern rising, particularly among younger employees, being seen as a reputable company which cares for nature, sustainability and its employees is a draw for talent.

Many companies invite their employees to become involved in charity conservation work in their community through a variety of rewards or incentives. Benefits for the company can include new skills and experiences which employees bring back to the work place, networking with community groups and building a reputation as a good employer.

The Diageo Earthwatch champions scheme, sponsored by the Diageo Foundation, is a programme of employee engagement in key environmental issues. Each year 15 Diageo employees from across the company's worldwide operations are selected to participate in international Earthwatch field research projects and then act as environmental champions in their workplace and local community upon their return. The scheme focuses on issues critical to both Earthwatch and Diageo: sustainable agriculture and land use, forests, biodiversity and water. Employees are selected through a competitive application process, a key part of which is to design a local conservation project which the champion will implement in their own workplace or community.

Diageo Earthwatch champions have contributed to important research such as documenting rare plants in Cameroon, monitoring the movements of birds and flying foxes in the Australian rainforest and surveying invertebrates in South Africa.

Returning champions have developed a diverse range of innovative and important local projects including:

- Setting up biodiversity monitoring stations at Scottish distilleries to allow visitors to compile biodiversity logs of Diageo sites;
- Developing key habitat for endangered species at Diageo sites through the creation of ponds, wildlife gardens and river clean-ups;
- Altering packaging production techniques to minimise waste output and energy consumption.

According to Charles McGill, Environment Manager at Diageo, the business's objective is to encourage employees' ideas and enable their people to put them into action. Involvement in biodiversity projects, such as through the Earthwatch scheme, helps inspire new ideas and motivates employees into taking action.

Linda Mellis is a brand manager at Diageo and took part in Earthwatch's 'Costa Rica's Tropical Forest' project in May 2003:

"The experience I gained through my Earthwatch project opened my eyes to conservation needs all over the world and has filled me with enthusiasm to help raise other people's awareness of the importance of wildlife and nature back here in Scotland."

Organic farming

Organic farming provides many opportunities for agriculture and food and drink companies in Scotland. At present, over 400,000 hectares of Scottish land is managed organically, representing 8% of Scottish agricultural area. As a fast growing industry, organic farming has a high level of support from the Scottish Executive and consumers alike. Sales of organic produce have been growing globally, and in the UK reached £1 billion in 2003, with

three out of four households buying organic.⁶⁸ Scottish Enterprise supports market growth and increasing Scotland's competitive potential through creating natural or organic segments of the food and drinks market, and the differentiation of Scottish branding and natural preservation techniques.⁶⁹ In February 2003, the Organic Action Plan published by the Scottish Executive set an ambitious target of 70% of Scottish organic sales to be sourced from within Scotland.⁷⁰

The beneficial effects of organic farming include biodiversity gains such as more species diversity, conservation of habitats and less dependence on fossil-fuel based inputs such as pesticides. Non-organic farming using pesticides kills many insects and other organisms which are beneficial to the soil and which support a wide range of other plants and animals. Extending fields and reducing natural habitat corridors threatens many species which rely on patches of hedges or woodlands to find shelter and food. In contrast, organic farming provides a wide range of habitats: more hedges, wider field margins, herb and clover rich grassland and a mixed range of crops and conservation is an integral part of the Soil Association's standards.⁷¹

Benefits

Food and drink are one of our basic needs. The consequences of unsustainable farming and food production practices are too severe and risky to be worth contemplating. The only solution to securing healthy and safe food supplies for Scotland's and the world's people is through ensuring that the food and drink industry becomes and remains sustainable.

Sustainable production not only benefits biodiversity but provides a return back to the production system itself through healthier, better quality food and drink. Real marketing benefits of sustainably produced foods have already been demonstrated through rising sales of companies like Loch Fyne Oysters or Mackies ice-cream. It also makes good business sense to insure the very productive systems on which the industry depends.

Resources

The Big Opportunity: Scottish Food and Drink Strategy.
<http://www.scottishfoodanddrink.com>.

⁶⁸ www.soilassociation.org

⁶⁹ Beattie, S. 1998. The Big Opportunity. Scottish Food and Drink. Scottish Enterprise.
<http://www.scottishfoodanddrink.com>

⁷⁰ Scottish Executive (2003) Organic Action Plan. Scottish Executive.
<http://www.scotland.gov.uk/library5/agri/orap-00.asp>

⁷¹ Soil Association (2000) The Biodiversity Benefits of Organic Farming. WWF-UK.
www.soilassociation.org

Agrifood Forum: provides a network of key information sources on agri-food production and consumption, related environmental impacts and practices to prevent or respond to these impacts. <http://www.agrifood-forum.net/>.

British Association for Shooting and Conservation (BASC): are helping the shooting community build upon their contribution to biodiversity that benefits shooting and conservation. <http://www.basc.org.uk/>.

The British Trust for Ornithology (BTO): provides a "one-stop-shop" with extensive information about terrestrial birds across the UK. <http://www.bto.org/birdtrends/index.htm>.

Countryside Premium Scheme – see The Rural Stewardship Scheme (RSS).

Food Standards Agency (Scotland): acts to improve food safety and standards in Scotland and protect the health of Scotland's population in relation to food. <http://www.foodstandards.gov.uk/scotland/>.

The Royal Society for the Protection of Birds (RSPB) Scotland: provides information and support to a variety of business sectors on birds across the UK. <http://www.rspb.org.uk/scotland/index.asp>.

Freedom Foods: farm assurance and food labelling scheme, set up by the RSPCA in 1994. <http://www.freedomfood.co.uk>.

Marine Stewardship Council (MSC): environmental standard for sustainable and well-managed fisheries brings together the fishing industry, retailers, consumers and conservationists to solve the problems of global over fishing and damaged marine ecosystems. <http://www.msc.org/>.

The Rural Stewardship Scheme (RSS): is designed to encourage farmers, crofters and common grazing committees to adopt environmentally friendly practices and to maintain and enhance particular habitats and landscape features. RSS has replaced the Countryside Premium Scheme and the Environmentally Sensitive Areas Scheme and is open to all agricultural holdings in Scotland. <http://www.scotland.gov.uk/library3/agri/rss-00.asp>.

Food Certification Scotland: provides conformity to food certification through approving a range certification schemes. <http://www.foodcertificationscotland.co.uk/operate.htm>.

The Soil Association: is the UK's leading campaigning and certification organisation for organic food and farming. <http://www.soilassociation.org>.

QUARRYING

Introduction

Scotland's varied geology harbours a host of valuable mineral resources such as limestone, sandstone, gneisses, quartzites and granite, which are often located in important natural sites. Modern Scotland depends on many of these minerals to build houses, schools and roads, generate energy and produce chemicals and other products such as glass. Furthermore, the extraction of these minerals, most commonly through opencast coal mining, hard rock quarrying and sand and gravel extraction, contributes to the Scottish economy.⁷² Quarries in Scotland provide jobs for 5,000 people and raw materials for nearly 33 million tonnes of aggregate, 3 million tones of asphalt and 2 million cubic metres of ready mixed concrete. However, quarries have historically been at the centre of much controversy, particularly in communities where they affect the local environment, landscape and ecosystems.

Quarrying of minerals normally takes place in the open landscape, owing to the natural location of suitable materials. In addition to serving important agricultural, tourism or recreational functions, these areas also tend to be where ecologically important habitats support many different species. Scotland's lochs, cliffs and mountains, where minerals are found, also support important ecosystems. Numerous Sites of Special Scientific Interest (SSSIs) and RAMSAR⁷³ sites are located in or near to quarries. Many species of birds, invertebrates and plants occur in these areas – some of which have not yet been comprehensively surveyed. Birds such as the Common Sandpiper (*Actitis hypoleucos*), Grey Heron (*Ardea cinerea*), Peregrine Falcon (*Falco peregrinus*) and Tufted Duck (*Aythya fuligula*) breed, nest or pass through reservoirs, marshes and rocky outcrops and some, such as the Sand Martin (*Riparia riparia*) have been known to begin breeding in quarries. Additionally, some species colonise new quarries – such as the Common Blue (*Polyommatus icarus*) and Six-spot Burnet (*Zygaena filipendulae*) butterflies.

Uses of and Impacts on Biodiversity

The quarrying sector's primary impact on biodiversity is through the removal of surface features. In Scotland quarries extract predominately non-metal minerals used by the construction, chemicals and glass industries. In order to gain access or remove these minerals from the ground, quarry operators will inevitably also remove habitat. Secondary effects of the quarrying process, such as noise, dust, pollution and waste removal, can also impinge on plants and animals. Usually these effects include a combination of changing land forms and disturbance, for instance through sedimentation which may arise from excavation and disturbance to land or water through quarrying activities.

⁷² Scottish Executive. 1998. *The Groundwater Regulations 1998: Code of Practice on Mineral Extraction*. This document focuses on quarrying, and excludes coal and peat extraction, other forms of mining and the extraction of oil: <http://www.scotland.gov.uk/library5/environment/tgwr-00.asp>

⁷³ See: <http://www.ramsar.org/>

Indirect impacts on biodiversity can be two-fold. The conversion process of the raw materials requires energy, is potentially polluting and can generate waste – all activities which in themselves have impacts on biodiversity. Additionally, in Scotland, where the majority of quarried products are used in construction, another important consideration for biodiversity is the development of new housing, roads and other infrastructure.⁷⁴

While the process of quarrying is associated mainly with negative impacts, a growing number of companies are now ameliorating negative effects and reinstating or establishing new sites of value for biodiversity.

Drivers

One of the leading drivers for quarrying companies to manage biodiversity impacts is legislative compliance. Because of their impacts on the landscape, quarries traditionally have come under public criticism and scrutiny. For this reason, the sector is regulated through policies and laws governing the supply of minerals. For example, areas of nature conservation or heritage value are usually protected from mineral development.⁷⁵ Today all new planning permits for quarries have operating conditions to restrict the environmental impacts of quarrying work, and have restoration and aftercare conditions attached to them. Meanwhile old permits require periodic review to ensure that they are up to date.⁷⁶ All minerals suppliers have to ensure they comply with legislation in their planning applications and, because permission can take many years to obtain, businesses need to think ahead, covering new, possibly stricter, conditions which may be imposed in the future.

Risk management is another compelling reason for companies to better manage biodiversity. A growing number of stakeholders are placing higher demands on quarrying companies, raising expectations not only for complying with existing legislation, but for the implementation of forthcoming laws and examples of good practice. The EU Liabilities Directive, for example, will place a greater burden of responsibility for environmental damage on companies, and it is in the interest of businesses to start acting now in order to reduce potentially costly amelioration measures at a later date.

One of the reasons for greater involvement in conservation work both on and off quarrying sites, is the improved image gained by a company which is seen to be carrying out positive measures for the countryside and the community. For many businesses engaging with biodiversity issues, the process has actually been one of mutual benefit to both the

⁷⁴ English Nature's Sector Analysis of the Construction sector has identified the sector to be leading on biodiversity impacts in England: <http://www.english-nature.org.uk/about/sector/construction.htm>

⁷⁵ Quarrying is governed mainly through the planning process, and in Scotland responsibility for mineral planning resides with unitary authorities, which deal with all planning issues within their areas. In Scotland compliance with the UK Government's guidelines is ensured through National Planning Policy Guidelines (NPPGs). NPPG4 Land for Mineral Working covers all types of mineral extraction with the exception of Open Cast Coal and Related Minerals (NPPG16).

⁷⁶ British Geological Survey: <http://www.bgs.ac.uk/mineralsuk/planning/legislation/home.html>

beneficiaries, such as local communities or NGOs, and the companies. Improved relationships with local stakeholders, including planners, has helped develop mutual trust and secure licenses to operate existing or proposed quarries.

Finally, the quarrying sector can reap financial benefits from innovative approaches to supplying aggregates and other products to its markets. Already the Aggregates Levy, introduced in April 2002 to encourage a reduction in the use of sand, gravel and crushed rock across the UK, has imposed additional costs on some quarried products.⁷⁷ Compliance with legislation reduces the risk of costly fines. Working with stakeholders can reduce lengthy and costly planning applications. Better relationships with communities helps to avoid costly poor publicity and subsequent compensation or amelioration expenditures. With rising demands for sustainable construction, there is also real potential growth for responsible suppliers to the construction sector.

What can you do?

As land managers, quarrying companies have a significant control over biodiversity and the sector is already taking numerous steps to reduce negative impacts and increase positive impacts on biodiversity. In the UK, the Minerals and Nature Conservation Forum (MNCF)⁷⁸ works towards environmentally sustainable development, and has produced a biodiversity handbook to guide quarry operators on the best way to use the opportunity presented by quarrying to create new wildlife habitats. The Quarry Products Association (QPA)⁷⁹ also compiles information about good practice on biodiversity conservation and similar guidelines and materials are available for construction companies through CIRIA (Construction Industry Research and Information Association).⁸⁰ Most of the guidance available puts forward a general set of principles or steps for quarrying companies to follow which are similar to the General Framework laid out in this document. The basic steps include:

- Developing and communicating a policy
- Developing and implementing Biodiversity Action Plans at Sites (Site BAPs) and for the Company as a whole (CBAPs) in consultation with stakeholders
- Mainstreaming biodiversity activities into a company's overall management systems
- Building capacity to carry out biodiversity work
- Monitoring and measuring performance

⁷⁷ Revenues raised from the Aggregates Levy are made available to Scottish communities through the Scottish Executive's Community Environmental Renewal Grants which are administered by Forward Scotland: <http://www.forward-scotland.org.uk/>

⁷⁸ The MNCF consists of three partners - English Nature, the QPA and the Silica and Moulding Sands Association (SAMSA): see <http://www.qpa.org/natureconservation/home.htm>

⁷⁹ <http://www.qpa.org/>

⁸⁰ <http://www.ciria.org.uk/> While construction is not covered by this document, further biodiversity information and guidelines is also available from Earthwatch Institute (Europe) at <http://www.businessandbiodiversity.org>

An overriding guiding principle adopted by many companies in the sector has been summarised as follows:

First, companies should endeavour to avoid any damage to biodiversity. If damage is unavoidable, they should seek to minimise and mitigate it, then compensate for the residual harm, offsetting⁸¹ it and making a positive contribution, to the extent possible, through conservation measures.⁸²

Planning for biodiversity

The best time to plan for biodiversity is during the initial project evaluation stage when an application for a permit is being considered. At this stage companies can review potential impacts and suggest locations and extraction processes which will minimise negative impacts to biodiversity, and propose restorative measures.⁸³ For many companies, expert advice from ecological consultants, Local Biodiversity Partnerships or Wildlife Trusts can help to enhance the quality of data collected, the analysis of ecological data and the development of a plan. In many instances, the preliminary evaluation and proposal phase can be the beginning of constructive dialogue or partnership between a company and conservation or community groups.

Extraction and Restoration

The quarrying industry, through its extraction processes and also the restoration of sites, has the opportunity to create habitats that are very different from those in surrounding agricultural land. This means that a host of different and often declining species can be supported alongside and following quarrying.⁸⁴

Once permission for quarrying has been granted, a Company BAP (CBAP) is a useful instrument for guiding operations so that impacts on biodiversity are minimised. This applies regardless of whether the site falls under a new permit or an older one where biodiversity may not have been incorporated into the original application. Through a CBAP, a company can plan for biodiversity alongside other activities by updating existing management systems and their usual review procedures. Expert guidance on habitats and species will be helpful in planning operations which need to be co-ordinated with other parts of the company. For example, where Sand Martins (*Riparia riparia*) nest, operations can be planned so that no

⁸¹ Offsetting, although controversial, can be a useful way of delivering biodiversity benefits but must be negotiated carefully with regulators, communities and all other stakeholders to ensure that it does not become a strategy of simply 'buying out' nature.

⁸² Kerry ten Kate, 2003. Biodiversity: towards best practice for extractive and utility companies Report of the Insight seminar on 24 July 2003. Insight Investment Management Limited.

⁸³ EC Directive (97/11/EC) requires all quarries greater than 25 hectares to carry out environmental assessments which include outlines of main alternatives to development.

⁸⁴ Bill Bolsover, 2002 in foreword to Aggregate Industries plc Biodiversity Action Plan: http://www.aggregate-uk.com/env_biodiversity.html

extraction takes place during their breeding period. Some companies have developed guidelines which outline the specific considerations which meet the needs of certain species.

It is also important to take the unexpected into account, such as coming across an unusual species. One of way of doing this is through delivering training and guidance to employees about how they should behave in unforeseen circumstances, such as if they find new wildlife on site. Ensuring that information is shared across the company and with local records centres and the LBAP helps to quickly identify priority species, as well as actions for properly dealing with them. Education and information sharing can all be built into the CBAP.

Aggregates Industries plc has developed a CBAP which is being implemented across the company. Among the targets included in the plan are some which specifically address building internal capacity to understand and deal with biodiversity. The company runs sessions on the general principles of biodiversity for quarry managers. Non-operational staff are also enrolled on environmental training programmes that cover biodiversity. Information sharing is encouraged through an internal web site and also with external stakeholders through links with local Biodiversity Partnerships and with the National Biodiversity Network (NBN).⁸⁵

Quarries have tremendous scope for making positive contributions to biodiversity through rehabilitation or restoration work, and many areas of high biodiversity value, such as wetlands, are on former quarry sites. Detailed restoration plans are usually compiled once a permit has been granted for a quarry. These details, often based on initial ecological surveys, need to be worked out with local groups and communities to determine the best way in which to meet the overall objectives of all stakeholders involved. A Site BAP is the usual format in which to outline a site's restoration and management plan and will cover habitat management issues, resource requirement, educational activities and long term arrangements for maintaining a site once responsibility for it leaves the company.

Restoration work sometimes begins while a site is still operational, and at other times follows extraction. It is likely that in either case a considerable amount of time may have passed since original plans were laid. Continuous dialogue with stakeholders will ensure that expectations are still understood and can be met. Any agreed changes should be incorporated into the Site BAP or management plan through a review process.

Working with others

Engaging with stakeholders is common practice among many companies seeking help in gathering data, soliciting opinions, planning activities, implementing plans and reviewing progress. There are numerous different ways in which a company can engage with its

⁸⁵ <http://www.nbn.org.uk/>

stakeholders, which ultimately can benefit the company as well as external groups and ultimately biodiversity.

For many quarrying companies, the first contact with local groups will be through the process of planning for activities on a company's site. Through meetings and open stakeholder dialogue, local Wildlife Trusts or biodiversity partnerships can provide valuable skills and information for drawing up BAPs. The local community can also provide a good sounding-board for plans.

“Working with the Orkney Community Biodiversity Partnership has helped us enormously in developing the environmental aspect of our twenty-year plan. They have given us several new ideas and helped us to move forward some of our own.” *Roy Brown, Orkney Aggregates Ltd.*

In many cases, the actual work during restoration is carried out by local or national conservation group members who have practical nature conservation skills and activities. Working together with these groups can help ensure that necessary resources are available to carry out work and that activities are sustainable in the long run. During such engagement, additional benefits may flow to local groups, such as skills or knowledge which the company has in management, accounting or marketing. Resource-sharing need not necessarily cost the company anything, but can greatly enhance the capacity of conservation groups. For instance, lending out diggers during times when they are not in use to help prepare ponds and other habitats.

Site specific initiatives normally need to be considered within the wider context of the surrounding environment. Through supporting local conservation initiatives, such as developing and maintaining wildlife corridors, the value of site based biodiversity work can be greatly enhanced.

Holistic thinking

To meet the current demand for aggregates in Scotland it may be possible to increase the amount of recycled aggregates used in construction. In Scotland, it has been estimated that up to 25% of the demand could be met in this way.⁸⁶

Realm Construction Ltd of Fife has recently been awarded a grant under WRAP's Scottish Aggregates Programme to expand its recycled aggregates production. The company's restoration and recycling facility is being upgraded to increase output of recycled aggregates by 40,000 tonnes, along with 60,000 tonnes of screened soils to be used in the company's own construction operations or sold on the open market.

⁸⁶ WRAP 2003. *Stakeholder update: Aggregates:*
<http://www.wrap.org.uk/publicaitons/Aggregates0903.pdf>

WRAP has been commissioned by the Scottish Executive to implement an Aggregates Programme for Scotland and provides information, research and business development services to companies in order to increase the production of recycled secondary aggregates.

Benefits

For quarrying businesses biodiversity work means good business practice. It helps to secure licences to operate from official authorities as well as the goodwill of local communities in which quarries are located. There are potential cost savings to be gained by thinking ahead and planning for biodiversity. Biodiversity is also a useful means of engaging local communities in the industry and helping to strike a balance between the social, economic and environmental needs of sustainable development. Quarrying may be able to continue without biodiversity, but society cannot.

Resources

Biodiversity and Opencast Mining Good Practice Guide (RSPB/SNH 2000). www.scotland.gov.uk/library3/environment/fslb-09.asp

British Aggregates Association: represents over 60 independent and privately owned quarry companies throughout the UK, accounting for 10% of the national output for quarrying. <http://www.british-aggregates.com/>

Construction Industry Environmental Forum (CIEF): mission is to help companies involved in construction improve their environmental and sustainability performance. http://www.ciria.org.uk/cief_intro.htm.

Construction Industry Research (CIRIA): is a member-based research organisation delivering research and best practice guidance on topics of importance spanning the construction, transportation and utilities sectors. <http://www.ciria.org.uk/index.html>

European Marine Sand and Gravel Group (MSAGG): helps members improve their environmental and economic efficiencies. <http://www.ciria.org/emsagg/introduction.htm>.

IUCN Mining and Biodiversity Programme: is working with the mining industry in relation to biodiversity conservation and protected areas. <http://www.icun.org/ourwork/programme.mining.htm>

The Minerals and Nature Conservation Forum: was formed in 1998 to instigate and develop projects benefiting conservation objectives of the UK minerals industry. <http://www.qpa.org/natureconservation/biod.htm>.

The Quarry Products Association (QPA): has been promoting biodiversity conservation in the quarrying sector in the UK and Scotland through a variety of initiatives including publishing guidance on managing quarries for biodiversity. <http://www.qpa.org/quarry.htm>.

Scottish Executive NPPG4 *Land for Mineral Working:* covers all types of mineral extraction with the exception of Open Cast Coal and Related Minerals (NPPG16) available from <http://www.scotland.gov.uk/about/Planning/framework.aspx>.

WRAP Aggregates Programme: provides information about sustainable aggregates.
<http://www.aggregain.org.uk>.

UTILITIES

Introduction

The utilities sector services businesses and households daily by providing water, sewage, waste, electricity, and gas.⁸⁷ In Scotland, utilities remain under a mixture of private and national ownership. For instance, water and sewerage services are provided by Scottish Water which is publicly owned, while electricity and waste management are supplied by private companies across Scotland.

Over the past ten years, the utilities sector has undergone massive changes. Not only has there been a rise in the number of privatised companies, but at the same time regulation and changing perceptions of the role that utilities companies should play in society have created new areas of risk and uncertainty for the industry. In a recent report, three major risks were highlighted – political, investment in infrastructure and customer relations. The main driving factors behind the political risks were environmental regulations and the consequent need for increased investment to reduce environmental impacts.⁸⁸

Uses of and Impacts on Biodiversity

Energy

The leading environmental concern for the energy sector has traditionally been associated with gas and particles emissions resulting from the burning of fossil fuels. While the industry is tightly regulated, major concerns remain about the effects of the burning of fossil fuels to generate electricity on the global climate.

Climate change is widely recognised as the most serious environmental threat facing our planet. Emissions of greenhouse gases (GHGs), from the burning of fossil fuels (e.g. oil, coal, gas), are already making an impact on the world's climate. Latest projections suggest that by the end of this century Scotland will have warmer, wetter winters, less snowfall and an increased risk of flooding.⁸⁹

There are clear links between climate change and biodiversity. As temperature changes, the environment which species exist in is altered, affecting individual animals and plants as well as the overall habitats in which they exist. Some species move, others adapt, while others die out altogether.

⁸⁷ Telecoms, sometimes included within utilities, is considered as a separate sector by the FTSE and is not included in this study.

⁸⁸ UK Social Investment Forum (UKSIF) (2003) Just Pension Notes – 2: Potentially material social, ethical & environmental risks – Utilities. <http://www.uksif.org>

⁸⁹ <http://www.scotland.gov.uk/about/ERADEN/ACEU-AQT/00016327/page568293029.aspx>

The sector can also affect biodiversity directly through its operations. Water and entire water systems, including the ecology associated with rivers, estuaries and wetlands, are affected by the installation of hydro-electric power plants or tidal or wave stations. Another use of water is as a coolant in the energy production process. Many plants and animals are sensitive to changes in water temperature and availability. The process of combustion also generates waste such as ash, which can lead to damage of habitats if not disposed of properly.

Finally, for traditional fossil fuel burning, sourcing the fuels is the issue. Oil, coal and gas exploitation can all have a direct impact on biodiversity through the alteration of natural land areas where these resources are often found, the transportation infrastructure required to move the fuel around, as well as the potential for damage through spillage or other accidents.

In addition to the effects of generating or converting energy, there are issues associated with transmitting electricity through over head or underground cables and in putting in place and maintaining this infrastructure. Responsible companies demonstrate that they manage these operations in a way which aims to protect and enhance biodiversity.

Water

Water is one of Scotland's most abundant natural resources, but without careful management its availability to households, businesses and biodiversity can be threatened. The use of this water is highly regulated and the management of water includes caring for ground water, managing reservoirs, carrying out water treatment and delivering water to end-users. Poor management of water resources can lead to water shortages, pollution as well as diverting water from wilderness areas. Throughout this process the water industry oversees substantial areas of land around water sources which are valuable to biodiversity.

Scottish Water formed in April 2002, with the remit to run a modern, effective and publicly-owned water and sewage industry responsible for Scottish water and waste water management. It is a publicly owned business⁹⁰ regulated through measures such as those imposed under the EU Water Framework Directive (2000). Scotland's pollution control regimes and water regulations will be updated through The Water Services (Scotland) Bill (2002) and The Water Environment and Water Services Act. This establishes a source-to-sea planning framework for river basin management designed to help reduce levels of pollution, and protect habitats supporting Scotland's wildlife.

What can you do?

The utilities sector is faced with many different pressures, of which environmental management is only one area. In order to ensure that biodiversity issues receive the

⁹⁰ <http://www.scotland.gov.uk/Topics/?pageID=71>

attention and resources needed to really make an impact, top level commitment is essential, expressed in a policy and implemented through a transparent process.

Utilities companies' wide ranging and varied impacts on biodiversity means that there are also many different ways in which they can make positive contributions towards biodiversity. With such a wide range of options, companies may find it useful to begin by evaluating their impacts and prioritising those areas where their impacts on and potential benefits for biodiversity are the greatest. A selection of ways in which Scottish utilities companies are contributing to biodiversity is outlined below.

Mainstreaming Biodiversity

In businesses as complex and diverse as utilities companies, mainstreaming biodiversity into every day operations is perhaps the only way to ensure that negative impacts are avoided and positive activities encouraged. Mainstreaming means making biodiversity part of every employee's, contractor's and supplier's role. A major step towards achieving this is integrating biodiversity into a company's management systems – such as environment, health or safety. Targets are set, systems and processes defined to meet the overall aims, indicators are defined to measure progress towards the targets and progress is monitored and measured.

Part of integrating biodiversity into a company's environmental management system and overall operations will inevitably require that all employees understand biodiversity, proper ways of dealing with different situations where they may encounter wildlife or flora on their jobs, as well as potential implications if policy is breached. While training plays a vital role in raising employee awareness of specific biodiversity related issues relevant to people's jobs, clearly defined procedures and systems can make carrying work out in a responsible manner easier and more efficient.

The biodiversity policy at Scottish and Southern Energy is implemented through an environmental work programme – a detailed set of procedures addressing how every operation has to take environmental issues into consideration in order to enhance environmental performance. The environmental programme addresses biodiversity related issues, such as planning developments in order to avoid sensitive habitats. Every single employee of the company has a copy of the Safety and Environment Manual which contains information about the environment as well as audit forms.

In order to make sure that all staff were properly prepared to deal with wildlife related issues, the Scottish and Southern Energy developed a training programme through which 1,300 managers, team leaders and directors have passed, and who are responsible in turn for passing what they learned on to the rest of the company's staff.

Encouraging employees to take part in practical biodiversity work is another way in which to raise awareness and enthusiasm about biodiversity. This can be through holding fun family events on a site to carry out biodiversity work, through supporting employees' involvement in local community work, or by sponsoring staff to participate in conservation projects. Some companies even second their employees to go and work with a biodiversity conservation organisation, potentially gaining new skills and knowledge for the company.

Develop a Site BAP

Site Biodiversity Action Plans, developed and implemented with local conservation organisations and partnerships, help to identify key species and habitats, prioritise action and manage biodiversity effectively. As Site BAPs normally include specific targets, they are also valuable tools for tracking and reporting progress on processes as well as on-the-ground biodiversity outputs.

Scottish Power has developed a model for preparing Site Biodiversity Action Plans which has already been applied to sites across Scotland. Generation, Scottish Power's electricity generation arm, carried out comprehensive surveys of its sites, taking stock of biodiversity as well as the company's activities. Following a prioritisation exercise, sites at Galloway, Cockenzie, and Longannet, and six of the company's hydro-electric schemes along the Dee and Cain Rivers, began the process of preparing Site Biodiversity Action Plans. Power Systems, the company responsible for transmission, also put together a Site BAP for the Townhill substation in Fife.

These plans outline how the company can positively enhance biodiversity for its land holdings, some of which qualifies as priority habitat under the UK and local BAPs. Each site BAP is compiled through cooperation with various local stakeholders, such as the local biodiversity partnership, wildlife trust or rangers. Ultimately, the Site BAPs are amalgamated into the overall Environmental Management System at each site, thus mainstreaming the biodiversity work into the sites' overall operations.

Support of local biodiversity partnerships and initiatives

Site-specific initiatives normally need to be considered within the wider context of the surrounding environment. One way in which companies can do this is by becoming involved in the local biodiversity partnership. This is a good way to learn about local and national conservation priorities, network with other organisations, find out about topical environmental issues and feed data back into the overall UK BAP process. Scottish Power, for example, sit on the Steering Group of the Argyll and Bute biodiversity partnership.

Participating in biodiversity partnerships adds value in terms of the business perspective and skills that company professionals can bring. In order to engage more businesses in biodiversity conservation, it is necessary to consider a business perspective – and this is often only possible with business input. To help bring this perspective to the Scottish Biodiversity Forum, a number of businesses, including utilities companies Scottish and Southern Energy and Scottish Power, became members of the business sub-group. On a local level, the Local Biodiversity Partnership at Argyll and Bute includes a member of Scottish Power's staff.

Sponsorship is another way for companies to provide support to conservation initiatives. For instance, Scottish Water is sponsoring Scottish Natural Heritage's Otter Survey. The John Muir Trust currently attracts support from eleven corporate members through their Corporate and Business Supporter Scheme.⁹¹ Sponsorship not only provides the receiving organisation with funds, but can also carry added benefits of being associated with a company, such as networking or positive publicity.

Renewable Energy

Renewable energy sources provide one alternative to traditional electricity generation using oil, coal or gas, eliminating emissions of greenhouse gases as well as other pollutants. Additionally, solar and wind power reduce pressure on land which traditionally arises from the need to source fossil fuels.

The Scottish Executive has set a target of 18% of all electricity generated to be from renewable sources by 2010.⁹² In the UK, wind energy has been identified as a key technology to reduce greenhouse gases. This does raise new concerns, particularly with respect to the location of wind-farms and the flight paths of wild birds. Wild bird habitats are protected under the Bird Directive⁹³ and it is important to consider the flight path as well as ground use of these birds when planning wind farms. Other animals may also be established in areas where wind farms are proposed and their habitats should also be protected, during the erection of turbines as well as throughout the life of the wind farm.⁹⁴

Careful planning and site assessment should identify both direct and indirect impacts on wildlife during the development and operational life of wind farms, and enable these impacts to be avoided. As part of the operating plan for a wind farm, a habitat management plan or Site BAP covering the land under the wind farm's jurisdiction will help to manage the site in a way which can help enhance the biodiversity of an area. For example, Scottish Power's installation at Black Law was conceived with input from landowners and the RSPB, as well as local experts, to integrate nature conservation and other land uses into the wind farm's operation by developing a Habitat Management Plan.

Benefits

By supporting biodiversity, utility companies can minimise their environmental risk and the risk of adverse publicity. At the same time, they can gain recognition from national government, regulators, customers, employees and communities for their role as responsible operators working towards sustainable development.

⁹¹ <http://www.jmt.org/memb/corporate.html>

⁹² www.dti.gov.uk/renewable

⁹³ Council Directive 79/409/EEC

⁹⁴ Guidelines on nature conservation and Wind Farms are available from RSPB Research Report 2 *Wind Energy and Birds: Results and Requirements* (February 2002) and from English Nature, RSPB, WWF-UK and BWEA (March 2001) *Wind Farm Development and Nature Conservation*.

Through mainstreaming biodiversity into its activities, companies can build their capacity to think ahead and reduce the risks of failed planning applications, poor performance or litigation.

Resources

Department of Trade and Industry (DTI) Energy Group: deals with a wide range of energy related matters, from its production or generation to its eventual supply to the customer. <http://www.dti.gov.uk/energy/about.shtml>.

Water UK: represents UK water and wastewater service suppliers at national and European level, working towards a sustainable future. <http://www.water.org.uk>.

Scottish Renewables Forum: forum for the Renewable Energy Industry, supporting the development and provision of a sustainable energy future for Scotland. <http://www.scottishrenewables.com/home.asp>.

FINANCE

Introduction

Scotland is one of the leading financial centres in Europe, within the top ten for banking, life and pensions business and investment management. Four banks are headquartered here, including Royal Bank of Scotland Group and Halifax Bank of Scotland (HBOS), as are three of the top five life assurance and pensions companies in the UK. Total funds managed in Scotland have grown by over 50% in the last three years, to a total at the end of 2000 of £326 billion (\$475 billion).⁹⁵

The finance sector includes a range of different businesses including banks, providers of insurance and life assurance, investment companies and real estate businesses. Financial institutions have until recently largely escaped the attention of environmental groups. However, a number of initiatives are beginning to focus attention on the role for the finance sector's role in supporting sustainable development, and as a result there is growing awareness of what financial institutions can do to contribute. The most significant developments concern the management of the indirect impacts of such businesses, through lending and investment.

A number of these initiatives are business-led and financial companies can sign up to and support these (see '**What Can You Do?**' below). Two further initiatives aimed at the finance sector include:

United Nations Environment Programme - Finance Initiative

The UNEP-FI works with over 275 financial institutions including commercial banks, investment banks, insurance and re-insurance companies, fund managers, multilateral development banks, and venture capital funds, to develop and promote the links between the environment and financial performance. The 2003 Global Round-Table meeting in Tokyo⁹⁶ included a session on "Sustaining Biodiversity", and was also the venue for the launch of the Japanese version of "Business and Biodiversity: The Handbook for Corporate Action,"⁹⁷ signalling the beginning of a focus on this issue by UNEP-FI.

Collevocchio Declaration on Financial Institutions and Sustainability

The Collevocchio Declaration developed by Friends of the Earth and signed by over 100 advocacy groups at the 2003 World Economic Forum in Davos, Switzerland calls on financial institutions to implement more socially and environmentally responsible lending policies.⁹⁸

⁹⁵ www.sfe.org.uk

⁹⁶ <http://unepfi.net/tokyo/>

⁹⁷ First published in 2002 by Earthwatch, IUCN and WBCSD; see <http://biodiversityeconomics.org/>

⁹⁸ <http://www.foe.org/camps/intl/declaration.html>

Relationship with Biodiversity

Risks

It is difficult to pinpoint the precise role of biodiversity in the overall relationship between the environment and the finance sector. The finance sector has also historically been seen as a 'low impact' industry, because its direct impacts are far outweighed by the indirect impacts of its business, and so understanding and awareness of biodiversity is particularly low within the sector. For these reasons, it is rare to find a financial institution which understands the relationship between biodiversity and its business.

However, work is underway to improve this understanding. Both lenders and investment managers are waking up to the risks posed to their investments by biodiversity, as one of a number of environmental issues which may increase project costs and liabilities and affect the ability of companies to secure a licence to operate in the future.

ISIS Asset Management, a leading specialist in socially responsible investment with an office in Edinburgh, is currently working with Earthwatch Institute (Europe) and the Department for International Development on a study entitled "The Material Risks of Biodiversity". The project will identify industry sectors in which a company's relationship with biodiversity represents a material business risk. The report, to be published in mid-2004, should help investors understand biodiversity better and identify those companies which should prioritise biodiversity as a management risk.

A number of the features of other industry sectors which link them to biodiversity are also true of the financial sector. For example, advertising campaigns such as those of the Co-op Bank, and by Non Governmental Organisations (NGOs) like WWF, have drawn high-street customers' attention to the links between banks and the financing of controversial projects like dams, which amongst other things can have a severe adverse impact on biodiversity. This in turn can have an affect on the reputation of lending institutions, and has led to consumer boycotts of credit-cards of certain banks in the past.

What can you do?

Although they represent only a tiny proportion of the total funds available in the finance sector, a number of initiatives are underway to explore how enterprises which provide a positive benefit to biodiversity can also provide investment opportunities. Some biodiversity-related business opportunities may exist for mainstream financial institutions, particularly as a result of the growth of regulation and protection for biodiversity in Europe.

Closer to the office, biodiversity presents opportunities for staff motivation and education and to develop relationships with local government and communities, through staff volunteering and partnering with biodiversity organisations to manage land and sites owned by the company.

The major impacts of finance sector companies are likely to be indirect. There are a number of recent initiatives to support the finance sector's role in sustainable development through its core businesses.

London Principles of Sustainable Finance

The London Principles of Sustainable Finance is a voluntary code for financial institutions that demonstrates their commitment to the financing of sustainable development. It focuses on the role of financial institutions in providing financial services that facilitate economic prosperity, while ensuring that the projects and business activities financed protect or enhance the environment and social development. The seven Principles were developed for the UK government in preparation for the World Summit on Sustainable Development in 2002 and are aimed at businesses from across the sector. Signatories agree, where relevant to the product and geographical scope of their business, to the following three principles designed to help protect the environment:⁹⁹

- To reflect the cost of environmental and social risks in the pricing of financial and risk management products
- To exercise equity ownership to promote efficient and sustainable asset use and risk management
- To provide access to finance for the development of environmentally beneficial technologies

Equator Principles

The International Finance Corporation (IFC) has developed a set of environmental and social guidelines to govern project finance in emerging markets (also known as low-income or developing countries).

Banks adopting the Principles pledge only to lend to major projects in the countries concerned after carrying out, and acting upon, an environmental assessment, which amongst other things takes into account “the protection of human health, cultural properties, and biodiversity, including endangered species and sensitive ecosystems”¹⁰⁰. The Financial Times sees this as “a clear signal that banks are awakening to the risks of socially irresponsible investing.”¹⁰¹

Each bank that adopts the principles will individually declare that it has or will put in place internal policies and processes that are consistent with the Equator Principles. Crafted by the heads of project finance and risk management from four of the supporting banks, the idea is that by adopting and implementing the principles, banks ought to be able to better assess, mitigate, document and monitor the credit risk and reputation risk associated with financing development projects. The Principles have so far been adopted by eighteen banks including the Royal Bank of Scotland.

⁹⁹ http://www.forumforthefuture.org.uk/uploadstore/London%20principles_executive_summary.pdf

¹⁰⁰ <http://www.equator-principles.com/principles.shtml>

¹⁰¹ Financial Times, 7 April 2003 <http://www.equator-principles.com/ft1.shtml>

FORGE Guidance on CSR

The British Bankers' Association and the Association of British Insurers have supported the development of the FORGE Guidance, which seeks to progress understanding of Corporate Social Responsibility (CSR) for the financial services sector.¹⁰² It considers the positive and negative impacts that social and environmental issues can pose to companies in this sector and demonstrates how they might develop and integrate a 'responsible' approach to these issues into their business practice.

Managing investment decisions

Environmental Credit Risks

A recent report by ISIS Asset Management¹⁰³ found that many leading banks believe that environmental risks can directly impact bank profitability. Environmental Credit Risk Assessment (ECRA) therefore plays an important role in reducing liability through exposure to bad debt and security. Biodiversity may be one of a number of factors leading to credit risk on certain projects; for example, the unexpected presence of protected species on an intended construction site may increase project costs by delaying construction or reducing the value of land held as security. Consideration of biodiversity issues should therefore be built into an ECRA system.

Barclays' Environmental Impact Assessment (EIA) Policy commits the company to lending to environmentally sensitive projects (for example, mining or electric hydroelectric schemes) only when they are satisfied that environmental impacts are being managed in accordance with World Bank Standards. As a minimum project finance proposals must be rigorously assessed to identify, quantify and, where appropriate, mitigate the environmental impacts surrounding these proposals.

The EIA Policy is applied worldwide across the Barclays Group, and provides a structured framework through which the potential environmental impacts of a project are assessed, options are evaluated, and appropriate action to be taken in mitigation of those impacts is identified. The Policy includes consideration of the management and on-going monitoring of the project. An EIA takes into account the natural environment (air, water and land); biodiversity; human health and safety; social aspects (e.g. involuntary resettlement, indigenous peoples' culture and heritage); and international transboundary aspects.

Barclays' Environmental Risk Policy Management works with the Group's credit teams worldwide to raise their awareness of the environmental considerations to be factored into lending decisions.

¹⁰² <http://www.bba.org.uk/public/corporate/35475/61264>

¹⁰³ A Benchmarking Study: Environmental Credit Risk Factors in the Pan-European Banking Sector. ISIS Asset Management 2002.

Engaging with investee companies

Some of the major institutional investors are already working with companies in which they invest to encourage them to manage, and communicate how they are managing, biodiversity issues.

Insight Investment is the fund management arm of Halifax Bank of Scotland (HBOS), which is headquartered in Edinburgh with operations throughout the UK and abroad. It is quoted on the London Stock Exchange and is a FTSE 100 company. Insight has recently begun to engage with companies in the utilities and extractives industries on biodiversity, building on existing expertise in the sector to develop best practice guidelines which they want to see companies move towards in managing biodiversity issues.¹⁰⁴

Direct impacts - facilities and land management

Many financial institutions have developed environmental management systems to address the direct impacts of their operations, including those resulting from transportation, construction and their supply chain.¹⁰⁵ For example, Lloyds TSB have an environment policy which commits them to incorporating specific environmental requirements into contracts with principal suppliers wherever practicable, including specifying products from sustainable sources.

Some companies, particularly those in real estate, are significant land owners, and can ensure that these sites are managed and developed with biodiversity in mind.

Land Securities is working with various stakeholders and NGOs such as Earthwatch and the Wildlife Trusts to develop its biodiversity strategy. To help assess and improve its biodiversity performance management, Land Securities signed up as a pilot to the Wildlife Trust's Business Biodiversity Benchmark¹⁰⁶ and was one of the first companies to be awarded this standard. A rapid assessment tool has been developed to allow prioritisation of sites where significant, cost effective improvements may be achieved.

¹⁰⁴ <http://www.insightinvestment.com/Corporate/responsibility/project/biodiversity.asp>

¹⁰⁵ http://www.businessandbiodiversity.org/action_chain.html

¹⁰⁶ <http://www.biodiversity-benchmark.org/index.html>

The Royal Bank of Scotland's new headquarters at Gogarburn, a 78 acre site on the outskirts of Edinburgh, are being developed with sustainability in mind. An ecological study was carried out in conjunction with the site Environmental Impact Assessment. The survey identified 19 different habitats and species which are included on the Edinburgh LBAP. In order to meet biodiversity objectives a three stage site Biodiversity Action Plan was developed with stakeholders covering planning, construction and eventual operations of the new site.

The overall aim of the plan is to increase the biodiversity value of the site. Specific actions in the plan include improving and planting woodlands, protecting and reintroducing native plant species, and controlling invasive plant species such as Giant Hogweed and Himalayan Balsam. Once the facility is completed, the management of biodiversity on site will be reviewed annually, with progress recorded against targets.

Customer Awareness

Banks can play a role in increasing their customers' awareness of environmental issues and providing support to them in managing their business impacts.

Lloyds TSB believe that by working with their customers, they can help to identify potential risks to both the environment and their business, and help them develop appropriate and cost-effective solutions. A central environment helpline provides guidance and support to the Group's lending officers; 611 cases were referred to the environment helpline during 2002.

Supporting Biodiversity

Like other major businesses, financial institutions can also support biodiversity through their community investments and philanthropic donations. Ideally, these will also be linked to increasing awareness and understanding of biodiversity and environmental issues within the company.

HSBC is funding "Investing in Nature", a £35 million, five-year partnership with Botanic Gardens Conservation International, Earthwatch and WWF.

Launched in February 2002, Investing in Nature will help to protect 20,000 plant species from extinction, improving the environmental quality of the world's major rivers, and sending scientists and HSBC employees around the world on Earthwatch scientific field research projects.

During the five-year partnership 2,000 employees will have contributed the equivalent of a century of environmental research by participating on the scientific field research projects. These Environmental Fellows will also be eligible for a grant of up to £400 to initiate a local environmental project on their return home.

The partnership also provides funding for 200 biodiversity scientists from emerging markets to receive research and conservation training to help build the capacity of participating institutions in developing countries to manage and conserve biodiversity.

Another way for companies to support biodiversity conservation is through working with local biodiversity partnerships, providing not only financial support but valuable skills and experience. Some local biodiversity partnerships now have representatives from businesses on their Steering Groups, helping to increase the number of companies which become involved at a local level in conserving biodiversity.

Benefits

The major benefits to financial institutions of addressing biodiversity issues are likely to be: firstly, reducing exposure to financial risk, and secondly, fulfilling commitments to corporate social responsibility and citizenship.

There is no doubt that biodiversity is particularly challenging for financial institutions to get to grips with. It is also true that financial institutions, by controlling the allocation of huge resources, have tremendous power to affect biodiversity. Equally certainly, biodiversity is a key piece of the sustainability puzzle and is one of the significant factors in many aspects of environmental risk. With growing attention both on the impacts of the finance sector, and on biodiversity by the finance sector, it is likely to become both slightly easier and also more important for financial institutions to address this challenge.

“The Equator Principles have been championed by the project finance business heads of banks. They believe that having a framework for the industry will lead to greater learning among project finance banks on environmental and social issues, and that having greater expertise in these areas will better enable them to advise clients and control risks. In other words, they believe it is good for business”.¹⁰⁷

Resources

Scottish Financial Enterprises: supports and represents the interests of Scotland's financial services sector. <http://www.sfe.org.uk>.

Equator Principles: a framework for banks to manage environmental and social issues in project financing. <http://www.equator-principles.com/>.

¹⁰⁷ <http://www.equator-principles.com/faq.shtml>

Insight Investment - Towards best practice for extractive and utility companies: biodiversity conservation document.

<http://www.insightinvestment.com/Corporate/responsibility/project/biodiversity.asp>.

United Nations Environment Programme - Finance Initiative

<http://unepfi.net>.

WWF Guidelines for Investors – Investors’ Guide to Dams: explains the various links between the impacts of dams and the risks these pose to investments.

http://www.panda.org/about_wwf/what_we_do/freshwater/what_we_do/policy_events/dams/index.cfm.

WWF Guidelines for Investors - Forest Investment Guidelines: provide information for financial institutions on how to manage their responsibilities in safeguarding the environmental and social qualities of forests impacted by projects.

<http://www.panda.org/downloads/forests/wwfinvestmentpol7oct03final.pdf>.

V. CASE STUDIES

A document containing 16 company specific detailed case studies including Orkney Aggregates LTD, Diageo, Scottish and Southern Energy, can be downloaded [here](#).

VI. THE ABC OF BIODIVERSITY

The Convention on Biological Diversity (CBD) [<http://www.biodiv.org/>] was signed at the United Nations Conference for Environment and Development (UNCED) in 1992, setting in motion a process which re-branded nature conservation and popularised the concept of biodiversity. The CBD has become one of the leading international conventions of modern times, signed by over 180 parties and integrating ideas of nature conservation, sustainable development and equitable benefit sharing. It has become an integral part of sustainable development thinking, embraced by governments, non-governmental organisations and businesses alike and setting aspirations of economic development, environmental protection and social cohesion (CBD 1994; WBCSD 2002; WSSD 2002). Under Article 6 of the CBD, signatory parties agreed to develop national strategies for the conservation and sustainable use of biological diversity and to integrate biodiversity considerations into all activities.

The UK Biodiversity Action Plan (UKBAP) [www.ukbap.org.uk] is the UK's strategy for conserving biodiversity within the UK and contributing to global biodiversity conservation. The UK BAP is co-ordinated by the UK Biodiversity Partnership, comprised of representatives from different sectors of society including government, non-governmental organisations and businesses. It spells out which species and habitats are of particular importance to the UK and sets targets for conservation and preservation of biodiversity. The UKBAP aims to identify ways in which society can work sustainably with nature through integrating consideration for biodiversity into all sectors of economic and social activity.

The UKBAP is supplemented by specific, costed plans for priority species and habitats. These Species and Habitat Action Plans (SAPs and HAPs) [<http://www.ukbap.org.uk/Plans/index.htm>] are co-ordinated by Lead Partners who have specific experience and interests in a particular species or habitat.

The UK BAP implementation was formerly co-ordinated by the UK Biodiversity Steering Group but, since 1999, this responsibility has been devolved to the national biodiversity groups. The Scotland Biodiversity Forum (SBF) [www.scotland.gov.uk/biodiversity] (formerly Scotland Biodiversity Group or SBG), chaired by the Scottish Executive, is responsible for devising a strategy and identifying policy instruments relevant to Scotland and has developed the Scotland Biodiversity Strategy which is being launched in February 2004.

On the ground, Local Biodiversity Action Plans (LBAPs) [<http://www.ukbap.org.uk/Plans/index.htm>] translate national targets into action at a local level. Unlike Habitat Management Plans, which address how to manage a specific site or habitat to attain a particular outcome through practical conservation measures, LBAPs cover a wider spectrum of activities which include community involvement, education and business engagement.

Each LBAP has been developed and is managed by a Local Biodiversity Partnership which is co-ordinated by an LBAP officer, sometimes referred to as a biodiversity practitioner. These posts receive partnership support from local authorities, SNH, RSPB, SWT and sometimes the Forestry Commission, SEPA, landfill tax, European Structural Funds, and local enterprise companies.

Local Biodiversity Partnerships consist of a variety of stakeholders from government, the community and businesses. Most LBAPs in Scotland are supported by local authorities which, under the community planning process, will soon have an obligation to incorporate biodiversity thinking into all of their activities (many already do so as part of their implementation of Agenda 21).

Companies can also draw up biodiversity policies, strategies and action plans to carry out biodiversity work throughout their organisations. A company's biodiversity policy will lay out its commitment to action while the strategy defines how this policy will be taken forward. For many companies, the biodiversity strategy will form a subset of its wider social responsibility or sustainability goals. This strategy should be based on an assessment of a company's activities and impacts on biodiversity.

Specific measures on how to address the objectives set out in the strategy will be spelled out in a Company Biodiversity Action Plan (CBAP) which may include a wide range of actions from looking at a company's supply chain through to site specific management issues. Companies which own or manage significant amounts of land holdings often develop separate Site Biodiversity Action Plans (Site BAPs) which should be linked to an LBAP and the UKBAP.

Ideally, a company will integrate the process of biodiversity action into its Environmental or Sustainable Management System. A framework for corporate biodiversity action is available from [The Handbook for Corporate Action](http://www.iucn.org/themes/business/index.htm) [http://www.iucn.org/themes/business/index.htm] as well as Earthwatch publications and the Business & Biodiversity web site [www.businessandbiodiversity.org.uk].

VII. LAW AND POLICY

SCOTLAND

Nature Conservation (Scotland) Bill 2003

This Bill is designed to establish an integrated framework for nature conservation in Scotland. It introduces a new general duty on public bodies to further the conservation of biodiversity, makes significant changes to existing arrangements for the establishment of sites of special scientific interest (SSSIs) by replacing most of Part II of the Wildlife and Countryside Act 1981, and extends the law in relation to birds, animals and plants by amending the current provisions of Part I of the Wildlife and Countryside Act 1981.

<http://www.scottish.parliament.uk/bills/#09>

Land Reform (Scotland) Act 2003

This Act determines the nature and extent of access rights, and their regulation and protection.

<http://www.hmsso.gov.uk/legislation/scotland/acts2003/20030002.htm>

Local Government in Scotland Act 2003

Provides a framework to enable the delivery of better, more responsive public services.

<http://www.hmsso.gov.uk/legislation/scotland/acts2003/20030001.htm>

Natural Heritage (Scotland) Act 1991

This Act establishes Scottish Natural Heritage and its functions.

http://www.hmsso.gov.uk/acts/acts1991/Ukpga_19910028_en_1.htm

Rural Stewardship Scheme (Scotland) Regulations 2001

Regulations governing the Rural Stewardship Scheme (RSS), designed to encourage farmers, crofters and common grazing committees to adopt environmentally friendly practices and to maintain and enhance particular habitats and landscape features. The RSS has replaced the Countryside Premium Scheme and the Environmentally Sensitive Areas Scheme and is open to all agricultural holdings in Scotland.

<http://www.hmsso.gov.uk/legislation/scotland/ssi2001/20010300.htm>

Pollution Prevention and Control (PPC) (Scotland) Regulations 2000

Regulations dealing with permits, enforcement, and appeals etc. related to pollution prevention and control.

<http://www.hmsso.gov.uk/legislation/scotland/ssi2000/20000323.htm>

Town and Country Planning (Scotland) Act 1997

Among other provisions, this Act considers the assessment of the environmental effects of any development; the need for planning permission to include appropriate provision for the preservation and planting of trees (and within conservation areas); and roads, footpaths and rights of way in relation to the planning process.

<http://www.hmsso.gov.uk/acts/acts1997/1997008.htm>

National planning policy guideline 14- natural heritage 1999

Guidance on how the Government's policies for the conservation and enhancement of Scotland's natural heritage should be reflected in land use planning.

Planning advice note 60- planning for natural heritage

This offers advice on good planning practice in relation to the conservation and enhancement of Scotland's natural heritage.

<http://www.scotland.gov.uk/library/pan/pn60-00.asp>

Planning advice note 64- reclamation of surface mineral workings

This offers advice on how mineral operators and planning authorities can improve the reclamation of surface mineral workings by building on existing experience, and where appropriate, disseminating and improving best practice.

<http://www.scotland.gov.uk/library5/planning/pan64-00.asp>

Planning advice note 65- planning and open space

This offers advice on the role of the planning system in protecting and enhancing existing open spaces and providing high quality new spaces.

<http://www.scotland.gov.uk/library5/planning/pan65-00.asp>

UK

Wildlife and Countryside Act 1981 (amended 1991)

This amended Act is the principle mechanism for the legislative protection of wildlife in Great Britain (not Northern Ireland, the Channel Islands or the Isle of Man) and is concerned with the protection of wildlife. It is the means by which the Convention on the Conservation of European Wildlife and Natural Habitats (the 'Bern Convention') and the European Union Directives on the Conservation of Wild Birds (79/409/EEC) and Natural Habitats and Wild Fauna and Flora (92/43/EEC) are implemented.

http://www.legislation.hmsso.gov.uk/acts/acts1991/Ukpga_19910039_en_1.htm

Environment Protection Act 1990

Sets up the institutional framework for implementing nature conservation across the UK.

http://www.hmsso.gov.uk/acts/acts1990/Ukpga_19900043_en_1.htm

Conservation (Natural Habitats) Regulations 1994, SI 1994 No. 2716

These regulations enact the European Union's (EU) Habitats Directive (92/43/EEC) in the UK. The Habitats Directive was designed to contribute to the maintenance of biodiversity within the European member states by the conservation of sites containing habitats and species selected as being of EC importance. These sites make up the Natura 2000 network.

http://www.hmsso.gov.uk/si/si1994/Uksi_19942716_en_1.htm

Planning and Compensation Act 1991

This Act deals with regulations in relation to town and country planning, and land compensation across the UK, and in Scotland.

http://www.hmsso.gov.uk/acts/acts1991/Ukpga_19910034_en_1.htm

Environment Act 1995

This Act establishes the Scottish Environment and Protection Agency in Scotland, and its powers and duties; as well as considering contaminated land and abandoned mines in Scotland.

http://www.hmsso.gov.uk/acts/acts1995/Ukpga_19950025_en_1.htm

EUROPEAN UNION

The Wild Birds Directive (Council Directive 79/409/EEC of 2 April 1979 on the conservation of wild birds)

Article 1 summarises this directive as relating to the conservation of all species of naturally occurring birds in the wild state in the European territory of the Member States to which the Treaty applies. It covers the protection, management and control of these species and lays down rules for their exploitation.

<http://europa.eu.int/comm/environment/nature/bird-dir.htm>

The Habitats Directive (Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora)

This Directive provides measures to protect conservation areas (Articles 3-11), of which the key measure is the designation of special areas of conservation (SAC) with a view to establishing a European ecological network of such areas under the title Natura 2000 (Article 3(1)); and measures to protect species (articles 12-16).

<http://europa.eu.int/comm/environment/nature/habdir.htm>

<http://www.ecnc.nl/doc/europe/legislat/habidire.html>

The Bern Convention (Convention on the conservation of European wildlife and natural habitats)

This Convention aims to ensure the conservation of wild flora and fauna and their natural habitats, with particular emphasis given to endangered and vulnerable species, including endangered and vulnerable migratory species.

<http://www.ecnc.nl/doc/europe/legislat/bernconv.html>

INTERNATIONAL

1992 Convention on Biological Diversity

An international agreement that came out of the Earth Summit, Rio de Janeiro in 1992. One of the three objectives of the Convention is the conservation of biological diversity, which requires that signatories develop national strategies for the conservation and sustainable use of biological diversity, and to integrate biodiversity considerations into all activities.

<http://www.biodiv.org/convention/articles.asp>

The Convention on International Trade in Endangered Species (CITES) 1973

The Convention was intended to protect endangered species of wild fauna and flora by regulating international trade in these species. The Convention is applied in the EC through Regulation 338/97 on the protection of species of wild fauna and flora by regulating trade.

http://www.wcmc.org.uk/igcmc/convent/cites/cn_ctcnv.html

Ramsar Convention on Wetlands of International Importance especially as Waterfowl Habitat (UK signed 1973)

This requires signatories to designate and protect wetlands of international importance, to promote wetlands generally and to foster the wise use of wetlands.

http://www.ramsar.org/index_very_key_docs.htm

Bonn Convention on the Conservation of Migratory Species of Wild Animals (UK signed 1979)

The Bonn Convention requires the protection of listed endangered migratory species, and encourages separate international agreements covering these and other threatened species.

<http://www.wcmc.org.uk/cms/>

VIII. USEFUL CONTACTS

Local Biodiversity Partnerships

For many companies, local biodiversity partnerships in Scotland can provide valuable advice on biodiversity in their areas. Some of the partnerships have been working with companies helping them to plan and implement Company Biodiversity Action Plans and activities. The list below summarises the business activities of Scottish Local Biodiversity Partnerships through to the end of 2003.

LBAP Partnership	Main Business Contact (Email / Phone)	Main areas of B&B Activity
Tayside	Catherine Lloyd tayside.biodiversity@ukf.net	Company BAP (with aggregates industry)
Living Shetland	Nicky Davies livingshetland@fwag.org.uk	Marine BAP with oil industry
Highland	Janet Bromham janet.bromham@highland.gov.uk	<ul style="list-style-type: none"> • Marine Innovation Award Scheme (sustainable marine use); • Sponsorship from business
Edinburgh	Sue Steel susan.steel@edinburgh.gov.uk Caroline Peacock caroline.peacock@edinburgh.gov.uk	<ul style="list-style-type: none"> • RBoS (Gogarburn site); • Airport; • Site Initiatives; • Computer industry.
North Lanarkshire	Jonathan Willet willetj@northlan.gov.uk	<ul style="list-style-type: none"> • Safeway depot (site work); • Funding from business; • Eurocentral Rail Terminal (haulage company) pond management.
Renfrewshire/ East Renfrewshire/ Inverclyde	Jenny Gough Jenny.gough@renfrewshire.gov.uk	<ul style="list-style-type: none"> • Glasgow Airport; • Golf Courses.
North-East Scotland	Maria Hardy maria.hardy@aberdeenshire.gov.uk	<ul style="list-style-type: none"> • Business & Biodiversity publication; • Scottish Enterprises; • Funding from companies; • Work with over a dozen companies.
Argyll & Bute	Marina Curran-Colthart Marina.Curran-Colthart@argyll-bute.gov.uk	<ul style="list-style-type: none"> • Scottish Power member of LBAP Partnership; • Work with numerous companies; • Developing Business & Biodiversity Case Studies publication.
Clackmannanshire	Lynn Campbell lynncampbell@clacks.gov.uk	<ul style="list-style-type: none"> • Significant funding for first 2 years of Clackmannanshire biodiversity project from a local contractor; • Various local business providing donations (eg bird seed) towards biodiversity initiatives; • Representatives from businesses on the Clackmannanshire Biodiversity Partnership, including writing of BAPs; • Approached from businesses interested in writing BAPs and introducing elements of biodiversity into their grounds maintenance; • Clacks' Biodiversity Action Plan will include the 'Business and Biodiversity Habitat Action Plan' in 2004 as part of the 3rd and final tranche of plans.
Falkirk	Martin Nunn Martin.nunn@falkirk.gov.uk	<ul style="list-style-type: none"> • Business & Biodiversity publication; • Work with BP and their CBAP; • Various private and public bodies involved in the partnership
West Lothian	John Sheldon John.sheldon@westlothian.gov.uk	<ul style="list-style-type: none"> • Pilot business HAP being developed by Ethicon 2; • Development of industrial related SUDS to deliver

		biodiversity as added value
Dumfries & Galloway	Peter Norman peter.norman@dumgal.gov.uk	<ul style="list-style-type: none"> • Biodiversity plan for BNFL Chapelcross; • Work with several companies.

Organisations and Web Sites

AccountAbility <http://www.accountability.org.uk/>

British Safety Council Environmental Audit
http://www.britsafe.org/Services/audit/EnvironmentalAudit_bb.htm

British Standards Institute <http://www.bsi-global.com/index.xalter>

British Trust for Ornithology <http://www.bto.org/index.htm>

Centre for Mountain Studies <http://www.cms.uhi.ac.uk/>

CIRIA <http://www.ciria.org.uk>

Dow Jones Sustainability Index <http://www.sustainability-indexes.com/>

Eco-management and Audit Scheme (EMAS)
http://europa.eu.int/comm/environment/emas/index_en.htm

Flora Celtica Scotland <http://rbg-web2.rbge.org.uk/celtica/scot2000/Index.htm>

FTSE4Good <http://www.ftse.com/ftse4good/>

Global Biodiversity Information Facility <http://192.38.112.110/>

Global Reporting Initiative (GRI) <http://www.globalreporting.org/>

International Finance Corporation (IFC) <http://www.ifc.org/>

International Union for Nature Conservation (IUCN) <http://www.iucn.org/themes/business/>

Invertebrate Conservation Trust <http://www.buglife.org.uk/>

The Mammal Society <http://www.abdn.ac.uk/mammal/newsite/index.shtml>

Marine Conservation Society <http://www.mcsuk.org/>

Reforestation Scotland <http://reforestingscotland.gn.apc.org/>

Royal Society for the Protection of Birds (RSPB) Scotland
<http://www.rspb.org.uk/scotland/index.asp>

Scottish Enterprise <http://www.scottish-enterprise.com/>

Scottish Environment Link <http://www.scotlink.org/>

Scottish Executive Environment and Rural Affairs Department (SEERAD)
<http://www.scotland.gov.uk>

Scottish Environmental Protection Agency (SEPA) <http://www.sepa.org.uk>

Scottish Natural Heritage <http://www.snh.org.uk/>

Scottish Wildlife Trusts <http://www.swt.org.uk/>

ScotWays <http://www.scotways.com/>

The Sigma Project <http://www.projectsigma.com/>

UK Biodiversity <http://www.ukbap.org.uk/>

UK Clearing House Mechanism for Biodiversity <http://www.chm.org.uk/>