Biodiversity and your Business

This guide helps companies understand the value of the natural environment to their businesses and how they can align their ambitions for growth with the conservation of the natural resources on which they depend. It uses examples of how companies successfully combine business performance with the conservation of the natural environment and the essential services that it provides. The guide provides links to more in-depth on-line guidance and reference materials.

The Business Opportunity

Leading companies are increasingly aware of the value that nature and the processes that it supports provide their brands, business, and society. They recognise that understanding their interactions and dependencies with the natural environment, and taking action to manage these, creates a stronger and more sustainable business model and credible brand.

Action to conserve and enhance nature can help you to:

1. Protect raw materials
2. Improve functioning of natural services that benefit the business
3. Mitigate risk to business operations and services
4. Improve reputation and trust
5. Create new business opportunities
The Business Risk

Nature is quite literally the “canary in the coalmine” when it comes to measuring the health of the planet. Although species do naturally fluctuate over time, the pressures and pace of change being placed on the natural environment by human activity can outstrip nature’s capacity to adapt.

There are very few businesses that do not rely on “services” from nature in some form (clean air and water, temperature and pollution regulation, healthy places for recreation, commodities derived from agricultural and raw materials). Unsustainable depletion of natural resources, and the ecosystem services that underpin their health and capacity to regenerate, will therefore result in economic decline.

- An annual investment of $45 billion to biodiversity conservation worldwide could safeguard about $5 trillion in ecosystem services\(^1\)
- The cost of invasive alien plants to the UK economy is £1.7 billion a year\(^2\)
- If pollinating insects were lost in Europe there would be a fall in food production worth 22 billion euros a year\(^3\)

References


Getting Started With a Clear Framework for Delivery

Your starting point needs to be an assessment of your organisations interactions with the natural environment. Once the key interactions are identified you can build a framework for your company to successfully invest in nature. The framework can form part of your Environmental Management System or be a standalone product.

Chapter 8 of the recently published Defra Environmental Reporting Guidelines provides a useful introduction for businesses who are developing biodiversity KPI's.
The kinds of interaction that need to be considered fall into three groups:

1) **Drivers of Biodiversity loss:**
   - Habitat loss and degradation: changes in land use and management, habitat fragmentation and destruction.
   - Invasive Alien Species: non-native species and diseases, changes to native species dynamics.
   - Over-exploitation: changing consumption patterns by humans, climate change, pollution, and contamination.

2) **Actions where business activities may have direct impacts:**
   - Understanding and managing biodiversity on your estate.
   - Sympathetic management of operations and sites that are close to sensitive/important sites for nature.
   - Incorporating criteria in Environmental Management Schemes and associated plans, specifications and strategies to manage elements of biodiversity.
   - Pollution that may impact upon biodiversity.
   - Abstraction of natural commodities in natural/semi-natural areas.
   - Direct investments in nature conservation projects.

3) **Indirect impacts:**
   - Supply chain impacts: source of raw materials, processes used and key dependencies on biodiversity.
   - The Impacts associated with the use of your products, and the disposal of them.
The key challenge for developing the framework is to understand how your business interacts and impacts on the natural environment, identifying areas where you can take ownership and identify actions that will allow the business to reduce negative impacts and capitalise on opportunities.

The framework can be developed with the following process:

**Step 1**
Identify the main interactions your organisation has with the natural world.

**Step 2**
Select a set of priority interactions that your organisation can influence - Start simply with just one or two indicators, or a specific site.

**Step 3**
Develop indicators that will allow your organisation to monitor trends against the key interactions identified in step 2.

**Step 4**
Establish data and reporting requirements. If using a tool, report which one and set out the data sources and input parameters.

**Step 5**
Develop a business strategy that will allow you to address the priorities identified in step 2.

**Step 6**
Report on your biodiversity and ecosystem services performance.
## Business Interaction with the Natural World by Sector

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### Key References

"Eco4Biz - Ecosystem services and biodiversity tools to support business decision-making"

Linking Shareholder and natural value: Managing Biodiversity and ecosystems risk in companies with an agricultural supply chain: [www.naturalvalueinitiative.org/](http://www.naturalvalueinitiative.org/)
Jargon Buster and new market opportunities from nature

**Biodiversity** is short hand for “biological diversity”, the variety of life on earth, including plants, animals and micro-organisms, the genes they contain and the ecosystems of which they form a part. It provides the basis for all our food, fuels, fibres, pharmaceuticals and building materials.

Biodiversity underpins ecosystem functioning and the provision of ecosystem services essential for human well-being.

**Ecosystem services** can be grouped into four broad categories, distinguished between the services they provide:

- Provisioning Services; fibre, fuel and water.
- Regulating services; climate regulation, water purification and flood protection.
- Supporting services; nutrient cycling, oxygen production and soil formation. These underpin the provision of the other ‘service’ categories.
- Cultural services; education, recreation, and aesthetic value.

**Natural capital** refers to the elements of nature that produce value (directly and indirectly) to people, such as the stock of forests, rivers, land, minerals and oceans”. It includes the living aspects of nature (i.e. stocks) as well as the non-living aspects (i.e. minerals and energy resources). Natural capital underpins all other types of capital (man-made, human and social) and is the foundation on which our economy, society and prosperity is built.

The inter-connectedness of biodiversity, ecosystems, climate change and sustainable economic activity was highlighted during the International Year of Biodiversity in 2010, by the publication of the G8 sponsored report, *The Economics and Ecosystems and Biodiversity* (TEEB 2010) and the Global Summit on the Convention on Biological Diversity held in Nagoya in October 2010.

UK businesses and government are now recognised internationally as being at the forefront of innovation in this area.

**New opportunities for UK based Business**

In June 2011 the first White Paper on the natural environment in over two decades was published by the UK Government. The Natural Choice – Securing the Value of Nature, made key commitments to create new opportunities for UK based business. Most significant among these was the creation of a Natural Capital Committee that reports formally to the Economic Affairs Committee and an industry led Ecosystem Markets Task Force that published a final report in March 2013.

In 2011 the Government set up the Ecosystem Markets Task Force to review the opportunities for UK business from expanding green goods, services, products, investment vehicles and markets which value and protect nature’s services. The report identified 5 priority recommendations:
Biodiversity 2020 – A Golden Opportunity For Your CSR and EMS Targets

Biodiversity 2020 sets out England’s strategy for halting biodiversity loss by 2020. The main priorities are to create bigger, better, and more connected habitats. The strategy can be found on the [Defra website](http://www.defra.gov.uk) and additional supporting information is available on [Google+](https://plus.google.com). There are a number of areas that have been identified where businesses can make a valuable contribution to protecting and enhancing our biodiversity:

1. Make sure that your business activities are not directly harming wildlife or habitats (e.g. by reducing pollution and controlling activities that may injure or kill wildlife). **Fact Sheets 1, 3, 4 & 5.**

2. Ensure that your organisations own estate are managed in a way that is sympathetic to biodiversity, and seek opportunities to provide features that benefit wildlife- **Fact Sheets 1 - 5** more advice on this can be found via the [Natural England website](http://www.naturalengland.org.uk).

3. If you are a major land holder, or have influence over large areas of land via your procurement procedures and specifications (eg deal with forestry or agriculture products) – what measures can you introduce to create additional habitat as a result of these activities? There are a range of mechanisms to support the delivery of habitat restoration and creation, including Agri Environment Schemes, Nature Improvement Areas, Local Nature Partnerships, and a very active voluntary/charitable sector – many of whom are well positioned to advise businesses who would like to carry out physical land management works/ investments to benefit biodiversity. **Fact Sheets 1, 2, 3, 4 and 5.**

4. Raise customer awareness about biodiversity and the actions they can take to support it in their own gardens and communities. **Fact Sheets 1 and Fact sheet 4.**

5. Get involved with local community groups, and engage with your Local Nature Partnership, [contact details for LNPs](http://www.natureengland.org.uk) can be found here. **Fact Sheets 1, 3 and 4.**
Fact Sheet 1
Case studies securing net gain for nature from planning and development

Case Study 1
Keeping mitigation local - Berkeley Homes and Edenbrook Country Park:

There is much that can be done through early local arrangements between developers, statutory authorities and local communities.

Edenbrook Country Park was created by Berkeley Homes working in partnership with Natural England and Hart District Council. The project was initiated when planning permission was sort for a housing development in close proximity to the Thames Basin Heath Special Protection Area (SPA). Thames Basin Heath is an interconnected heathland habitat in southern England across the counties of Surrey, Berkshire and Hampshire, vulnerable to recreational disturbance. Lowland heathlands are a valuable habitat, rarer than rainforests. (The Wildlife Trusts)

Natural England, worked with the local planning authority and the developers to find a solution which would meet the requirements of the Habitats Regulations while enabling the housing development to go ahead. The project partners managed to turn a problem into a solution by creating a country park that turned agricultural land into a high quality set of wildlife habitats. The park was designed in such a way that it also met the requirements for recreation required to remove likely effects on the SPA. This park provides a marketing opportunity for the developer and has ensured that residents of the new housing development as well as the existing local community have high quality living environment.

Impacts

- A 24 Hectare Country Park
- 2.7KM of new hedgerow planted
- 4 Hectares of meadow seeded
- 2 Hectares of ponds and reed beds created
- 4.7 Km of footpaths, boardwalks
- £2million investment in habitat creation and public recreation.
Case Study 2

Biodiversity Offsetting – Biobanking:

The BioBanking scheme in New South Wales Australia is an established biodiversity offsetting scheme which began in 2008. BioBanking is a market-based scheme that provides a streamlined biodiversity assessment process for development, a rigorous and credible offsetting scheme as well as an opportunity for rural landowners to generate income by managing land for conservation.

BioBanking enables 'biodiversity credits' to be generated by landowners who commit to enhance and protect biodiversity values on their land through a biobanking agreement. These credits can then be sold, generating funds for the management of the site. Credits can be used to counterbalance (or offset) the impacts on biodiversity values that are likely to occur as a result of development. The credits can also be sold to those seeking to invest in conservation outcomes, including philanthropic organisations and government.

Biobanking works alongside other planning mechanisms for mitigating the impact of developments on nature. Planning agreements, conservation covenants put on land owned by the developer, or the purchase and gifting of land to a wildlife agency by the developer are all more commonly employed by developers than Biobanking. Where the Biobanking scheme has been utilised it has proved to be an effective and transparent mechanism for both speeding up the planning process and securing the best long term outcomes for nature.

Impacts

- 450 hectares of bushland are now protected in perpetuity under biobanking agreements.
- $2.4 million held in trust to fund the management of biobank sites.
- Over $530,000 in management payments have been paid out to landowners.
- 50 landowners have expressed interest in establishing biobank sites.
Case Study 1

Growing herbaceous plants suitable for anaerobic digestion on brownfield sites using compost and digestate as a soil improver

This research project is part of a wider WRAP funded two year programme to investigate the potential for utilising brownfield sites by planting energy crops. Digestates from anaerobic digestion are used as a fertiliser, and compared to more standard fertilisers.

The project is investigating the effects of the application of digestate, the by-product of anaerobic digestion and compost on the growth of a mix of perennial flowering plants, tailored to the UK climate, on two brownfield sites in England over two years.

The harvested material will be assessed for its potential use as a feedstock in anaerobic digestion to produce biogas and more digestate.

Impacts

➤ Provides an alternative to maize forage as an anaerobic digestate.

➤ Offers a much greater source of pollen and nectar than maize forage, greater biodiversity and also soil protection, as the mix can remain in the ground for up to five years.

➤ Fewer fertilisers and pesticides are required compared to maize forage and so the perennial mix has a lower carbon footprint and lower agricultural inputs, whilst producing significant quantities of biogas.

➤ Reduces the need to take value food producing land out of production.
Case Study 2

Wetland bioenergy

Habitat management can be an expensive business when the traditional products from old farming practices that sustain important habitats for wildlife no longer have a market. Open wetland habitats of rush and sedge were once harvested for basket making material, to provide wicks for lights and roofing materials. With the advent of alternative products and advances in technology large tracts of these wetland habitats were drained for arable agriculture leading to a loss of biodiversity. 90% of wetlands have been lost in the UK since Roman times and the majority of this loss took place from the industrial revolution.

The remaining wetlands are now largely protected through environmental legislation which requires the owner to maintain the habitat through cutting or grazing management. Cutting and removing the biomass is an expensive undertaking without a market for the cut material. In May 2013 the Department of Energy and Climate Change awarded a 13 million pound grant to three applied research projects co-ordinated by the RSPB that are trialling methods to utilise biomass from wetland habitat management for bioenergy.

AB Systems are investigating a method of producing biomass briquettes from high moisture content material. This involves the use of a temporary drying system called an AgBag which is set up close to the harvesting area. Mobile processing machinery to make briquettes from the dried material is also being tested.

AMW IBERS – Project Kade involves the production of energy from cut material through anaerobic digestion and also biocharring.

Natural Synergies – Sustainable Utilisation of Wetland Biomass for Energy Generation also involves the production of energy from anaerobic digestion. This project is utilising existing farm infrastructure including silage bays to store the cut wetland material. Power generated by the process will be fed straight to the national grid and the heat produced utilised on the farm.

Impacts

 ► Provides a market for material cut to maintain wetland habitats for wildlife.

 ► Will provide rural employment and a sustainable source of energy.

 ► Has application to other wildlife habitats that need to be maintained by harvesting of biomass.
Fact Sheet 3

Case studies local woodfuel supply chains active sustainable management supporting local economies

Case Study 1

Confor Woodfuel Suppliers Group

The Confor Woodfuel Suppliers’ Group was established in 2011 and is affiliated to the Renewable Energy Association. It has around 40 members committed to supplying high quality, independently tested, fuel to end-users. It has an independent chair. The purpose of the Woodfuel Suppliers’ Group is to provide a forum for businesses on the 'supply side' of biomass to network and access information, and to help businesses present a professional image to customers.

Its core aims are:

✓ To support networking amongst businesses and provide access to relevant information about developments affecting woodfuel suppliers;

✓ To promote UK woodfuel suppliers to end users as companies committed to meeting recognised standards of woodfuel quality and sustainability;

✓ To help build consumer confidence in the sector by helping member businesses to supply good quality, suitable fuel and excellent service to enduring markets;

✓ To provide other interested parties (e.g. the Forestry Commission, boiler installers and other sectors) channelled access to UK woodfuel suppliers;

✓ To address issues of fuel quality and fuel sustainability, by supporting the principle of audited accreditation of fuel supply; and,

✓ To support wider efforts to increase the supply of wood from UK forests;

The group is helping to build consumer confidence in the supply chain and increase the use of locally-sourced woodfuel. The Woodland Supply Group is working with Government to develop bioenergy sustainability standards to ensure energy markets deliver real carbon savings without damaging woodland habitats.
Case Study 2

East Midlands Woodland Bird Project

Woodland bird populations have been in steady decline since the 1970s with 33 species falling by 20% over the last 25 years. Together with the RSPB, Natural England and other key conservation bodies, the Woodland Birds Project is aiming to reverse this decline by providing financial support to landowners and managers to improve woodland habitat for birds and wider biodiversity.

The grants, offered through the English Woodland Grant Scheme (EWGS), are specifically aimed at woodland creation and management that will help woodland birds. EWGS grants of £1.9 million have been match funded by an estimated £4.7 million from the private sector to secure sustainable woodland management and support rural economies.

Whilst declining woodland birds are the focus and are being used to promote and measure the success of the funding, the key objective is to bring the woodland back into sustainable management by multiple owners at a landscape scale. This provides a range of benefits for biodiversity, and the local economy.

As a by-product of the habitat improvement process the Project has stimulated significant management activity that (to date) will provide carbon savings that are valued at £1.3 million by substituting woodfuel for fossil fuels. Restructuring of woodlands is expected to produce 108,000 tonnes of timber over the next five years; this timber (mostly destined for wood fuel) is estimated to have a value of at least £2.7 million.

Impacts

- Provides a market for material cut to maintain woodland habitats for wildlife.
- Projected carbon savings from woodfuel valued at £1.3 million.
- 108,000 tonnes of timber expected to be produced over the next five years with a value of £2.7 million.
Case Study 1

LEAF Marque, Open Farm Sunday and the Trinley Estate

LEAF Marque is a globally recognised, independently certified standards system, developed by LEAF (Linking Environment And Farming). It is based on LEAF’s Integrated Farm Management (IFM) principles of sustainable farming. Products carrying the LEAF Marque have been produced by farmers who are committed to continually improving agriculture and the environment for the mutual benefit of farmers, consumers, wildlife and the countryside. In the UK, there are currently 487 growers farming 223,141 hectares certified to the LEAF Marque standard.

LEAF also run Open Farm Sunday, an annual event held on hundreds of farms across the UK. Open Farm Sunday aims to raise the public’s awareness of the story behind food and its link with nature, to connect people with farmers and the countryside, and to provide farmers with the skills and resources to engage with their local community.

Hampshire grower and past BBC Farmer of the Year Andrew Hughes has improved both the 670 Ha Trinley Estate’s farming profits and its biodiversity with the help of LEAF Marque. Andrew is also utilising Open Farm Sunday to help connect local consumers with the vital role the farm plays to enhance biodiversity.

Impacts

- Over eight years, yields have lifted by 20%, while inputs have actually reduced.
- The soil structure on the farm has been improved leading to better tolerance to drought stress in dry weather.
- The farm can supply rapeseed on a new contract to ADM through LEAF Marque certification which offers a £15/t premium.
- Management is now tailored to provide optimum pollinator and farmland bird habitats.
- The public learn about farming and nature through Open Farm Sunday and the story behind LEAF Marque.
Case Study 2

Conservation Grade and Operation Turtle Dove

Conservation Grade is a unique sustainability protocol implemented by farmers in return for a contracted premium price for their crop.

The Conservation Grade standard is based on sound applied science designed to arrest and reverse the decline in British farmland biodiversity. Conservation Grade habitats are designed to also qualify for entry into the Government’s agri-environmental stewardship (ES) schemes, Entry Level (ELS) and Higher Level (HLS). This ensures that all Conservation Grade farmers benefit from agri environment funding for some conservation measures whilst carrying out more conservation work to achieve Conservation Grade accreditation.

Operation Turtle Dove aims to reverse the decline of one of England’s best loved farmland birds, the Turtle Dove. The project partners are the RSPB, Conservation Grade, Pensthorpe Conservation Trust and Natural England. The project builds on research into the Turtle Dove breeding grounds in England, establishes feeding habitat over core breeding range through advisory and farmer initiatives and researches factors operating during migration and at wintering areas.

The aim of the research on feeding habitats is to identify a management solution for Turtle Doves which can be rolled out at a larger scale, through agri-environment measures and certification schemes, such as Conservation Grade.

Impacts

- Raises public awareness of nature friendly farming through its branding and marketing campaigns.
- Enables consumers to help provide a financial incentive for farmers to encourage more biodiversity.
- Farmers benefit from training access to markets and a premium for their product.
- Pools the resources of a commercial food supplier, NGOs and government to maximize the benefits to biodiversity from connecting consumers with nature.
Fact Sheet 5

Case Studies water cycle catchment management: integrating nature into water, waste water and flood management

Case Study 1

United Utilities: SCaMP Project

The SCaMP (Sustainable Catchment Management Programme) project takes an integrated approach to catchment management in the North West of England. United Utilities has invested £9.37 million in capital projects across the project area. UU owns 58,000 hectares of land in the area, most of which is farmed by tenant farmers. The catchment provides water for 6.7 million people. This investment has helped farmers by providing new farm buildings for indoor wintering of livestock and for lambing. And new waste management facilities have reduced run-off pollution of water courses. The project is being undertaken by United Utilities in partnership with the RSPB, demonstrating an effective partnership approach with private, public and non-governmental organisations managing land for a wider range of ecosystem services and benefits.

The project has utilised funding through European agri-environment schemes alongside water company investment. SCaMP enhances biodiversity, helps deliver the UK Biodiversity Action Plan (BAP) targets, ensures a sustainable future for the company’s agricultural tenants, and protects and improves water quality.

Impacts

- SCaMP money attracted over £2m additional capital grants and ongoing revenue grants to tenant farmers through agri-environment scheme (HLS/ELS) payments, a value of £30K per tenant farmer.
- Stronger relationship between United Utilities and its tenant farmers.
- Improved condition of United Utilities’ landholdings in line with the government Public Service Agreement target of 95% of SSSI brought into target condition by 2010.
- 430 ha of new native woodland planted.
- 110 ha of species rich hay meadow brought into favourable condition.
- 11,000 ha of heather moorland restored.
- 100 ha of bare peat restored.
- 245 ha of rush pasture restored to favourable condition.

For more information about this case study see: http://corporate.unitedutilities.com/scamp-index.aspx

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Case Study 2

Wandle Trust

The Wandle Trust is an environmental charity dedicated to restoring and maintaining the health of the River Wandle in South London and its catchment. Thanks to the hard work of the Wandle Trust’s many volunteers, and the generous support of supporters such as Thames Water, the river is now being restored to its former glory as one of the world’s great chalkstreams.

Thames Water provide core funding in support of the Wandle Trust’s work to achieve Good Ecological Potential in line with the aims of the Water Framework Directive. Ultimately the Trust aims to achieve Good Ecological Status for the river; and for the Wandle catchment to set international standards for urban community-driven sustainability and environmental excellence in river rehabilitation and restoration.

In addition to the investment by Thames Water the Wandle Trust receives sponsorship from local businesses. Local Estate Agents, Seymour Green, sponsor one of the community river clean-ups annually. The link between house price values and access to quality natural greenspace is well proven so this is an ideal project for Seymour Green to invest in - see Foresty Commission Economic Benefits of Natural Greenspace.

Impacts

- **Education**: showing children and adults the value of a healthy river, what it looks like, and how to achieve it. The programme includes a trout in school project at local schools along the river.

- **Engagement**: involving and communicating with local people, to generate empowerment, ownership and sustainable community stewardship for the River Wandle – hold monthly community clean up days along whole length of river

- **Ecosystem improvement**: enhance and maximise the River Wandle’s habitats, biodiversity and ecological sustainability

- **Partnership and facilitation**: form strong, sustainable partnerships with other strategic organisations concerned with the health of the River Wandle including business, third sector and government partners.