

Biodiversity: going green (literally)

This briefing is based on reputable sources, but is not intended as a definitive scientific statement - rather as a useful background to start a conversation on this topic. It is designed to inform and enable Environment Reps, Environment/Sustainability Committees and members interested in environmental issues in their workplaces to:

- raise awareness of climate adaptation and mitigation in relation to ecosystems and biodiversity
- raise awareness of carbon off-setting by investing in nature
- encourage workplace activity and positive behaviours
- advocate with employers to consider impacts and responsible management of natural resources

Activity around this positive agenda can also help to raise the profile of the Branch and attract new members

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Background

In the preamble to the European Communication on biodiversity it states; "Biodiversity, the extraordinary variety of ecosystems, species and genes that surround us, is our life insurance, giving us food, fresh water and clean air, shelter and medicine, mitigating natural disasters, pests and diseases and contributes to regulating the climate. Biodiversity is also our natural capital, delivering ecosystem services that underpin our economy. Its deterioration and loss jeopardises the provision of these services: we lose species and habitats and the wealth and employment we derive from nature, and endanger our own wellbeing."

The trends from available indicatorsⁱ suggest that the state of biodiversity is declining, the pressures upon it are increasing, and the benefits derived by humans from biodiversity are diminishing, but that the responses to address its loss are increasing. The overall message from these indicators is that despite the many efforts taken around the world to conserve biodiversity and use it sustainably, responses so far have not been adequate to address the scale of biodiversity loss or reduce the pressure.

Jobs and biodiversity

Sustainlabourⁱⁱ estimate that in the European Union 14.6 million jobs, in other words 7% of the labour market, are directly related to biodiversity. In the case of developing countries, this figure rises to around 927 million, in other words 35% of their labour market. As far as jobs related to ecosystem services are concerned these figures are even higher, with 55% of jobs in the European Union and 84% of jobs in developing countries being closely related to these services.

Critical global threat

Biodiversity loss is a critical global environmental threat and is under pressure from:

- Climatic changes
- Habitat loss and degradation
- Excessive nutrient load and other forms of pollution
- Over-exploitation and unsustainable use
- Invasive alien species

Actions that are taken to adapt to climate change can reduce the risk of biodiversity loss, and provide opportunities for biodiversity to adapt to changing circumstances.

Current rates of species extinction are unparalleled. Driven mainly by human activities, species are currently being lost 100 to 1,000 times faster than the natural rate: 60% of the world's ecosystems are degraded or used unsustainably; 75% of fish stocks are over-exploited or significantly depleted and 75% of the genetic diversity of agricultural crops has been lost worldwide since 1990.

An estimated 13 million hectares of tropical forests are cleared each year and 20% of the world's tropical coral reefs have already disappeared, while 95% will be at risk of destruction or extreme damage by 2050 if climate change continues unabated.ⁱⁱⁱ

Agriculture, grazing, and urban development divide and destroy terrestrial habitats. In the oceans, fishing trawlers scrape the sea floor while aquaculture eats up mangroves and other sensitive coastal regions.

Overexploitation for food, medicine, and materials also threatens biodiversity. Fishing has depleted 80% of wild stocks - the thriving illegal trade in wild plants and animals is second only to the drug trade in profits, according to Interpol.

Pollution is a problem - ranging from pesticides and industrial waste poisons rivers and accumulates in food chains – to thousands of sea birds and turtles dying every year from ingesting bits of plastic. The CO₂ that drives global warming is a pollutant, acidifying the oceans and potentially dooming biologically rich coral reefs.

Infrastructure developments, such as housing, industrial developments and transport networks are also an important contributor to loss of habitats.

The UK's losses (State of Nature Report^{iv})

- The state of the UK's butterflies (2011) concluded that 72% of species had decreased over the previous ten years, including common "garden" butterflies that had declined by 24%.
- The state of the UK's birds (2012) reported that the UK has lost in the region of 44 million breeding birds since the late 1960s.
- In 2012, Our Vanishing Flora looked at the extinction of plants from counties across the UK in the 20th century, and found widespread losses. In 16 counties, one plant species went extinct every other year.
- The state of Britain's mammals (2011) highlighted the decline of hedgehogs, the ongoing loss of red squirrels and the recovery of otters.

Intergovernmental Panel on Climate Change (IPCC)

In its 2013 report, the U.N. Intergovernmental Panel on Climate Change (IPCC) concluded that it was 95 per cent certain that humans are the "dominant cause" of global warming since the 1950s, and that biodiversity will be affected, with species moving or even lost in response to changes in air and sea temperature and water availability. The composition of habitats will change; woodlands will be vulnerable to more frequent storm events. Climate change will increase the severity of flooding and drought in different parts of the country.

In 2012 the Intergovernmental Platform on Biodiversity and Ecosystem Services' (IPBES)^v was established to address the specific challenge of environmental degradation resulting in biodiversity loss.

Mitigating the effects of climate change

Scottish Natural Heritage states, "although climate change is inevitable, the worst extremes of change can be reduced by concerted action. Action is needed to both reduce greenhouse gas emissions and enhance carbon and greenhouse gas sinks. Such actions will not only mitigate climate change but can, if done correctly, also improve our nature and landscapes."

It goes on, "Land use change can make significant contribution to reducing national emissions. It has been estimated that agricultural soils could take up an additional 115 megatonnes of carbon, which is equivalent to 22 per cent of total carbon dioxide emissions from the energy sector... If we can manage many of our important habitats better, so that they not only support a diverse range of species but also soak up greenhouse gases."

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

*Kofi Annan, UN Secretary,
2003*

EU strategy to halt loss of biodiversity

In 2011, the European Commission adopted a new strategy to halt the loss of biodiversity and ecosystem services in the EU by 2020, in line with two previous commitments to halting the loss of biodiversity and the degradation of ecosystem services in the EU by 2020, and restoring them in so far as feasible, while stepping up the EU contribution to averting global biodiversity loss.

It also outlined a vision for 2050: "by 2050, European Union biodiversity and the ecosystem services it provides – its natural capital – are protected, valued and appropriately restored for biodiversity's intrinsic value and for their essential contribution to human wellbeing and

economic prosperity, and so that catastrophic changes caused by the loss of biodiversity are avoided."

Devolved biodiversity strategy & information

The overall EU strategy has been adopted and adapted to our national context – there is an overriding policy, but also devolved administration strategies and information. This may be found at:

- Northern Ireland biodiversity: http://bit.ly/ni_biodiversity
- Welsh biodiversity: <http://www.biodiversitywales.org.uk>
- Biodiversity Scotland: <http://www.biodiversityscotland.gov.uk/>
- UK wide biodiversity tool kit: <http://www.biodiversityplanningtoolkit.com>

It's good for business

UK businesses also lose out from environmental degradation. Problems with the security of supply (nexus of food, water and energy) – with real shortages in resources and disruption to their availability – may become apparent. Price spikes, increased insurance premiums and reputational issues over environmental damage may arise. There is often a lack of information about impacts on natural capital, such that businesses and consumers are unable to make informed choices. The impacts of supply chains on far-off natural resources are often hidden or ignored. While many businesses understand that respecting natural capital makes good business sense.

The Business and Biodiversity Resource Centre^{vi} indicate that organisations can contribute to UK Biodiversity targets:

- **As a landowner:** by managing habitats and species to enhance and conserve biodiversity value or planting species of conservation value.
- **As a purchaser of raw materials** or manufactured products: by managing your supply chain to minimise upstream impacts on biodiversity
- **As an operator:** by minimising the environmental impacts associated with any emissions to air, land or water, and the production of waste.
- **As a user of energy:** by implementing energy efficiency measures which reduces greenhouse gas emissions and the rate of depletion of natural resources
- **As a Corporate funder:** by providing finance for the conservation of one of the species or habitats listed in UK's Biodiversity Action Plan under the UK Government championing scheme
- **As an employer:** by raising staff awareness of biodiversity issues; by encouraging staff to get involved in biodiversity initiatives via local conservation organisations; by seconding staff to biodiversity projects within local authorities or conservation organisations; by holding team-building days which contribute to practical conservation plans

The Business Case for staff engagement and benefits to staff

Engage Online, a programme which supports the development of employee engagement in community initiatives, has developed the business case for employee engagement by citing many of these benefits which include:

- By supporting employee engagement in conservation activities companies can demonstrate their own commitment to building healthy communities and biodiversity issues.

- A wide range of skills can be developed through employee engagement such as communications, organisation time management, and innovative approaches to problem solving and teamwork.
- Encouraging new ways of thinking can help internal communication within an organisation by creating a shared sense of purpose and loyalty, and provide staffs with new insights and knowledge that encourage innovation both in the community and within the company.
- Employee engagement is associated with corporate social responsibility and enhancing company's image.
- Companies can benefit from broadening their networking capacity within the community through their employees involvement in local initiatives. This can help the company keep abreast of current environmental and community issues.
- Benefits to staff involved in conservation activities include:
 - Building and strengthening personal skills
 - Developing team/departmental cohesion
 - Exploring and learning to cope with new situations and challenges
 - Offering the opportunity to employees to contribute to important conservation causes

Standards and codes

The European Centre for Nature Conservation^{vii} has launched the European Biodiversity Standard (EBS), which is an independent tool for companies to assess, upgrade and profile their biodiversity performance.

Biodiversity Benchmark^{viii} is a standard for assessing and certifying an organisation's systems for achieving continual biodiversity protection and enhancement on its landholdings and their implementation. The nature of certified sites varies and their effective management for wildlife contributes to the creation of a Living Landscape in a number of ways:

- **Restore:** Proactive management of existing wildlife rich sites and sites of conservation importance.
- **Recreate:** Establishment of wildlife habitat on land previously used for other purposes.
- **Reconnect:** Sites which contribute towards a network of habitats, enhancing the permeability of the landscape to wildlife.

Biodiversity Benchmark can complement existing environmental management systems such as ISO14001 and EMAS by integrating biodiversity into the systems of an organisation.

A vision for the future

In the report, Natural choice: securing the value of nature; the vision for the future is mapped out as; "Together, our society must act on all the evidence we now have. We must protect the essentials of life: our air, biodiversity, soils and water, so that they can continue to provide us with the services on which we rely. We must repair the damage done to our natural environment by restoring natural connections that have been broken."

ⁱ Global biodiversity outlook 3 <http://www.cbd.int/doc/publications/gbo/gbo3-final-en.pdf>

ⁱⁱ SustainLabour <http://www.sustainlabour.org/noticia.php?lang=EN&idnoticia=534>

ⁱⁱⁱ http://ec.europa.eu/environment/nature/biodiversity/intro/index_en.htm

^{iv} State of nature report: http://www.rspb.org.uk/Images/stateofnature_tcm9-345839.pdf

^v IPBES provides a mechanism recognized by both the scientific and policy communities to synthesize, review, assess and critically evaluate relevant information and knowledge generated worldwide by governments, academia, scientific organizations, non-governmental organizations and indigenous communities.

^{vi} <http://www.businessandbiodiversity.org/index.html> (The Business & Biodiversity Resource Centre (BBRC) is hosted by Earthwatch Institute (Europe) and is supported by the Environmental Action Fund of DEFRA and English Nature)

^{vii} <http://www.europeanbiodiversitystandard.eu/>

^{viii} <http://www.wildlifetrusts.org/biodiversitybenchmark>