

## **Natural Environment Narrative**

**We all depend on the natural environment. It provides the essentials of life, inspires us, and is central to our health, wealth and happiness. But we are currently not using it sustainably. Changing and growing pressures are telling us that we need a fresh approach to managing and using our natural environment. We know how to do things in a better way, and there is a strong economic case for action too. We get a lot from our natural environment: resources and raw materials to use, services to support us and personal benefits from enjoying it. As a society we need to value these benefits and, by doing so, ensure that people can benefit now and in future. By looking at how different bits of the environment are connected, we can make better decisions and open up new opportunities. We will need to work together, understanding how individual and collective actions affect the natural environment upon which we depend.**

### **We all depend on the natural environment.**

The natural environment provides us with the very essentials of life: it gives us clean air and water; it enables us to produce and gather food, fuel and raw materials from the land and sea; it regulates our climate; it stems flood waters and it filters pollution. It is central to our local and global security and is the very foundation of our economic, social and personal well-being.

The natural environment we see around us, in our towns and cities as well as in the countryside, is a result of the link between humankind and nature and it is constantly changing. As we look back, we see our economy has grown up around it, and we still depend on it for our way of life.

### **But we are currently not using it sustainably.**

In the past, we have usually been able to get what we need from nature but we can't afford to take it for granted. At a time when – as a nation as well as a world – we are increasingly thinking about the security of our food and our energy supply, we need to realise that living beyond our environmental means is just as untenable as living beyond our financial means.

Climate change is one powerful example of what happens when we get things out of balance, but the Millennium Ecosystem Assessment concluded that nearly two thirds of the services that we derive from the natural systems that support life on Earth are in decline, and that environmental degradation is already a real barrier to defeating global poverty.

### **Changing and growing pressures demand a fresh approach to how we manage and use our natural environment.**

The demands we put on the environment are constantly changing. Although many important aspects of our environment are protected from direct harm, in a world of global population growth and financial, climate and social change they face growing and often unpredictable pressures. We must therefore move on from thinking about the environment as something simply to protect. We must learn to manage it in a way that means it can adapt to these changes and continue to support society in future.

**We know how to do things in a better way**

Now that we understand far more about how these natural systems work and the benefits they provide to us, we can begin to think differently about the way we protect and enhance our natural environment. We can look at flood risk management far more broadly, using woodland, soils and salt marshes as natural barriers to reduce run-off or protect our coastal areas. We recognise that peat bogs can provide carbon sinks, be places for wildlife to thrive and people to enjoy nature, and form a vital part of the water purification system for many of our major cities. In those cities, parks are valuable to the health and wellbeing of individuals and communities. We also now understand their importance as areas which can help with water management, filter pollution and cool the city air by up to 2°C.

**And there is a strong economic case to drive action too.**

The Stern Review has supported action to reduce CO<sub>2</sub> emissions by concluding that, if we don't act now, the overall costs and risks of climate change will be equivalent to 5-20% of global GDP each year. The ongoing study on "The Economics of Ecosystems and Biodiversity"(TEEB) has recently estimated that we are currently losing €50bn globally every year from ecosystem degradation and that this could rise to welfare losses by 2050 equivalent to 7% of global GDP. However, it also concludes that action to prevent this loss would be very beneficial, with a benefit to cost ratio of as much as 100:1.

In the UK, such economics are starting to drive changes to our management and use of the natural environment. They point to reducing some of the pressures that society places on the environment through making economically prudent increases in resource efficiency. They also support public and private investment in natural systems as routes to providing cost-effective solutions in areas ranging from improving mental and physical health, to coastal flood risk management, climate regulation and water purification. The TEEB study estimates that around one European job in every six is somehow dependent on the environment. By supporting economic activity, well designed investments can then lead to benefits for employment and our society.

**We get a lot from our natural environment. As a society we need to value these benefits and ensure a sustainable supply from which people can benefit now and in future:**

**Resources and raw materials to use:** The UK's natural environment gives us a wide range of valuable resources which we can use directly or which enable us to produce other things. Extracting minerals from the land and sea for building and industrial processes, collecting and growing food, timber, fibre and other raw materials and taking water from our lakes and rivers to sustain our households and businesses was worth over £15bn to the UK economy in 2007. However, the observed degradation of biodiversity and natural systems in this country and worldwide suggests we can't simply keep taking from our environment without thinking about the effects this extraction has. There are balances to be struck if we want to secure a sustainable flow of all these goods.

With finite resources such as minerals, we need to be as efficient as possible in our consumption of them. We need to ensure they are extracted in a way that doesn't damage other parts of the environment or landscape and we must avoid putting pressure on other resources to provide alternatives when supplies run low. With renewable resources, such as water supplies from our lakes and rivers, or fish from our seas, we need to balance their extraction so that society has enough of what it needs to thrive, but so that our natural systems do too, and have a chance to renew themselves. This can benefit the economy and environment. For example, it is estimated that UK businesses could save £0.4 billion through more efficient use of water, and more sustainable management of Eastern Atlantic Bluefin Tuna fisheries could actually boost landings from \$1bn to \$3bn.

These benefits may go beyond those to the businesses themselves, by protecting or restoring aspects of the environment that the rest of society values highly. They may also go beyond our own shores. Every time we import a product from abroad we influence the use of natural resources in its country of origin, affecting the environment there and the lives of the people that depend on that environment, which makes it all the more important that we manage such resources responsibly.

**Services to support us:** Natural systems also support our way of life in ways that are less visible but still valuable to us. The value to flood risk management of wetlands has been estimated at £1,279/ha/yr and pollination supports food production in the UK to the value of £1bn per year. Storing carbon is also a valuable, but invisible, service. It is estimated that peat soils in England store 296 million tonnes of carbon, but cultivation and drainage of lowland peat soils means that they are losing between 2.8 and 5.8 million tonnes of CO<sub>2</sub> per year. The annual value of this loss is estimated at between £74 million and £150 million.

Many people are unaware of the impact we are having on the ability of these systems to function. The Millennium Ecosystem Assessment showed how, across the world, we are already eroding our natural "infrastructure" – our soils and seas and the communities of plants and animals that live on and in them. Soil erosion in England alone is estimated to cost agriculture £45m per year, and may cause further costs by reducing water quality and increasing flood risk when that soil enters our rivers. In other cases, we are expecting too much of this infrastructure – loading it too heavily with our waste and pollutants, or taking out too much so that it can't function as efficiently as it otherwise might.

Understanding the limits to and economic value of these services is essential if we are to make the necessary investments in maintaining and enhancing our natural systems now so that society can avoid the costs of having to replace them in future. For example, in 2002, water customers paid over £90m to remove nitrates and pesticides from drinking water sources. Managing our soils, restoring natural habitats next to water bodies, and reducing the inputs from farming and sewerage could greatly reduce these costs, as well as protecting wildlife in our lakes and rivers.

**Personal benefits from enjoying the natural world:** In addition to the things nature does for us, there are many ways in which our health and well-being are enhanced by the natural environment. Increasing physical activity by having green spaces to walk or exercise in could save the NHS around £2.1bn every year. There

is growing evidence of the positive effects that access to a healthy natural environment can have on mental health. The negative effects of a poor natural environment often affect poorest people most. In deprived areas, there is often more air pollution, less green space, fewer trees, more derelict land and less biodiversity resulting in real impacts on people's quality and longevity of life: Recent estimates suggest that air pollution reduces life expectancy over the UK population by an average of 6 to 8 months at a cost of £15 billion. However, enhancing one aspect of the natural environment can benefit others – one study in the West Midlands, suggests that trees have been estimated to remove 7% of the particulate air pollution that we create, and this activity could be more than doubled by increasing tree cover from 3.7% to 16.5% in the region.

The natural environment also contributes to the economy through tourism and recreation, with estimated expenditure on rural leisure visits amounting to £10.6bn in 2006. There are 75 million visits to National Parks every year and nearly 17 million to National Nature Reserves and 2,200 miles of waterways, boosting rural businesses and supporting thousands of local jobs.

Beyond the quantifiable health benefits and contributions to tourism, there are also numerous other ways in which the natural environment enriches our lives. Interacting with the natural environment can help communities to come together with a combined interest in the place where they live. It can provide opportunities for people to cooperate around a common goal and take pride in their neighbourhood. The intrinsic value of biodiversity goes beyond the pleasure it gives to the individual who experiences it to the importance that some of our species and habitats have in terms of global rarity. Bluebell woods and heathland bring a real sense of place to our countryside, but we are the custodians of much of the total area of these habitats in the world and therefore we have a wider responsibility to protect them.

**By considering how different aspects of the environment are related, we can make better decisions that open up new opportunities for both protecting and also enhancing our environment and our lives.**

The importance of our natural environment means that we need to find better ways to enable everyone to understand and value its contribution to the lifestyles we want, the places we live and work in, and the wider economy.

The natural environment is a system. We will be able to find more efficient and effective solutions to environmental issues such as the management of our uplands if we consider the individual attributes, such as water or biodiversity, climate change or resource use as parts of a greater whole. We must also recognise that the natural environment doesn't stop in the countryside – it affects and is affected by those in our towns and cities. Indeed, the concentration of people in our urban places makes them ideal places to ensure that as many people as possible enjoy the benefits that the natural environment can provide.

We must plan carefully how we use our limited land and marine areas, balancing society's needs for water, food production, energy production, recreation, wildlife and space. In the face of changing climate and other pressures, we need to take far-reaching decisions to invest in our natural systems so that they continue to provide the services we need in the future.

**We will need to work together, understanding how our individual and collective actions affect the natural environment upon which we depend.**

Simple measures can have far-reaching benefits for our natural environment and the individual decisions we all make daily play a vital role. We can all try to be aware of the impacts of the food and other products we consume on natural systems around the world. We can reduce pressures on water supply by fitting water-efficient devices in our homes and businesses, and by not paving over our gardens and other green spaces, we can help prevent surface water flooding and retain habitats for wildlife such as bees and birds.

The decisions that individual businesses make are also an intrinsic part of the picture. Resource use, waste disposal, land use and impacts in other countries of products or materials that they import and export all have implications for the ability of our natural environment to function and support both them individually and society more widely. Those that directly manage land in this country have a crucial role to play in striking a balance between the provision of food, fuel and other resources that are critical to our economy and society, and maintaining and investing in the natural systems that support that production. The generation of new technologies that enable better resource use or increase the value we gain with lower impacts on natural systems also offers significant growth opportunities across the economy.

We have the knowledge and the tools to deliver a healthy natural environment and the scientific and economic arguments point to action now being both necessary and cost effective. If we work with each other and with natural systems, we will have real opportunities to increase the efficiency of delivering many of the services that society needs and values. And if we balance our demands rather than overloading natural systems, we can reduce the risk of leaving our children and future generations with higher costs for the essentials of life and a poorer planet to support them.