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Biodiversity counts

The UN has declared 2010 to be the International Year of Biodiversity – an invitation to celebrate the variety of life on Earth, to value and understand it and, crucially, safeguard it. There are clear signs that human activity is damaging biodiversity, but why is this important, and what can we do about it?

Biodiversity might sound like an abstract term, but it simply means the variety of plant and animal species on our planet, and it embraces every ecosystem from an urban backyard to the deep ocean. We humans are both part of that diversity and dependent on it. One important focus of this international year is to understand the relationship between biodiversity and the health of our ecosystems. We rely on the natural environment for a range of what are known as ‘ecosystem services’: food, fuel and clean water are obvious ones, but just as important are things like regulation of our climate, protection from natural

hazards, breakdown of waste and, not least, aesthetic enjoyment.

We reap undeniable benefits from the services our ecosystem provides, but these are under threat as we slowly convert natural ecosystems to human-dominated ones. The jury’s still out on how far the way we currently manage our ecosystems is damaging biodiversity and what long-term effects this might have, but there is real concern that the damage will not be easy to recover from.

These issues led NERC to make biodiversity one of its seven research themes. Understanding them is vital if we are to continue to enjoy and benefit from environmental services. It is also needed to solve many of the challenges we currently face: food security, renewable energy, environmental protection, climate change and poverty alleviation.

As part of the Living With Environmental Change initiative a UK National Ecosystem Assessment (UK NEA) has been launched, co-chaired by Professors

Robert Watson at Defra and Steve Albon of the Macaulay Institute – see www.lwec.org.uk/activities/nea for more information. UK NEA involves many government, academic, NGO and private sector institutions and will look at the state and value of the UK’s changing natural environment and ecosystem services in terrestrial, freshwater and marine environments. And a new research programme within NERC’s biodiversity theme aims to provide the basic scientific knowledge that will ultimately underpin policy on the management of UK ecosystems.

Further afield, as you will read in this edition of *Planet Earth*, NERC is supporting researchers like Rob Pickles whose work in Guyana is highlighting the richness of biodiversity in the South American rainforest, and the particular challenges faced by governments trying to balance development with conservation.

But valuing and nurturing biodiversity are not only the preserve of the scientific

community. This year, 22 May – International Day for Biological Diversity – saw the launch of a series of BioBlitz events around the UK. Many NERC-funded scientists are taking part in these special field surveys, where the public and nature experts work together to record a snapshot of the plant and animal species in an area over a continuous 24-hour period.

Other NERC-supported initiatives taking place this year include the biggest-ever survey of UK ladybirds. Schoolchildren will work with scientists to gather data about these insects, including how the invasive harlequin ladybird is spreading across the country and how native species are responding.

While many paths to protecting the health of our ecosystems are incremental, the questions and challenges facing biodiversity are undeniably large, and large-scale solutions are needed. NERC is in the vanguard of international efforts to focus on biodiversity at a time when the pressures on life on Earth are huge.

