



British Ecological Society

## OUR POSITION

The British Ecological Society has identified three priorities for policy-making in this Parliament:

- 1 That policy is informed by sound scientific evidence, and that policy-makers have access to the best available ecological science to inform decision-making. The British Ecological Society is an independent, authoritative learned society committed to presenting scientific evidence in an objective and unbiased way.
- 2 That ecological science is valued for the vital role it has to play in meeting some of the most important challenges of the 21st century. The UK's universities and research institutes are home to world-leading ecological science that helps us to predict the consequences of human activity on the environment and the importance of the environment for human welfare.
- 3 That the value of the environment to human wellbeing and prosperity – our natural capital – is recognised across government. Protecting and enhancing the UK's natural capital is essential for securing a sustainable economy and society, and the environment must be fully integrated into decision-making.



Photo credit: Jason Reeves

## CONTACT US

To find out more about the British Ecological Society, our network of expertise, and what we can offer, please get in touch with our external affairs team

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British Ecological Society

# Ecology Matters

## The Value of Ecology for Society, Economy and the Environment



Photo credit: Dave Goulson

# THE BRITISH ECOLOGICAL SOCIETY

*The British Ecological Society is the world's oldest ecological society, founded in 1913, with over 5,000 members. As an independent, authoritative learned society and a leading voice for ecologists in the UK, the Society is committed to an evidence-informed approach, and to ensuring that policy-makers have easy access to the best available scientific evidence to inform decision-making.*

# WHAT IS ECOLOGY?

Ecology is the study of how living things relate to each other and their environment.

Knowledge of these relationships allows us to predict the impact of human activity on our natural world, and to understand how the environment supports the health and wellbeing of our society.

## The importance of ecology

This relationship between people and the environment is at the heart of many of the most important challenges of the 21<sup>st</sup> century, from food security to climate change. Investing in ecological research and ensuring that policy is informed by the latest scientific evidence is crucial if we are to tackle these challenges effectively.

## Economy

Protecting and enhancing our natural capital – the ‘stock’ of natural resources from which we derive benefits – is an essential part of sustainable economic growth, yet has been consistently undervalued.

The UK National Ecosystem Assessment<sup>1</sup> placed the value of these goods and services in the billions of pounds, while the value to the UK economy of insect pollinators alone has been estimated at £690 million a year.

Ecological research enables us to better understand, account for and protect these vital goods and services. Applying this knowledge to maintain our natural capital stocks is vital for economic prosperity and to avoid significant costs to business and government.

## Society

The relationship between mental and physical wellbeing and the natural environment is increasingly well understood, from the role of microbial biodiversity to the importance of local green spaces.

An estimated £2.1 billion worth of mental and physical health costs could be averted each year if every household in the country were provided with equitable access to good quality green space<sup>2</sup>.

Ecological research is vital for understanding exactly how the natural environment impacts upon human health and wellbeing, and ensuring that these benefits are protected and maximised.

## Environment

60% of monitored species have declined over the last 50 years, and our most vulnerable species are showing little sign of recovery<sup>3</sup>. Protecting species and habitats is essential for maintaining our stocks of natural capital and the benefits we derive from the environment, as well as for their intrinsic value.

The *Making Space for Nature*<sup>4</sup> report, led by former BES President Professor Sir John Lawton, called for a new approach to nature conservation underpinned by ecological science to meet the target of halting the loss of biodiversity by 2020: more, bigger, better, joined.

Ecological research allows us to understand the underlying causes of biodiversity loss and ensure that our conservation strategies are efficient, cost-effective and resilient to the challenges of climate change and other pressures.

# CASE STUDIES

## Valuing our natural capital



Photo credit: David Bird

The natural world is central to our wellbeing and economic prosperity, yet many ecosystems and their services are being degraded and lost at a global scale<sup>5</sup>. The UK National Ecosystem Assessment (UK NEA) demonstrated that natural capital and ecosystem services are worth billions of pounds to our economy and are vital for society’s wellbeing.

Ecological research has been integral to the UK NEA, providing key information on the state, value and possible futures of the UK environment. Ecologists have developed robust estimates of the monetary value of our ecosystems, from coasts to urban green spaces. The UK NEA has provided a foundation of evidence to support government policies including *The Natural Choice*, and has provided a model for countries worldwide.

## Protecting insect pollinators

Pollinating insects such as bees perform an essential ecosystem service worth an estimated £690 million in the UK alone<sup>6</sup>.

Multiple pressures, including land use change, pests and diseases, and climate change have resulted in widespread declines in pollinator populations, both in the UK and globally<sup>7</sup>.



The loss of ecosystem services from this decline threatens agricultural productivity, food security, and ultimately human health.

Ecology has enabled us to understand the causes, patterns and consequences of pollinator decline, underpinning policies that address this issue such as Defra’s National Pollinator Strategy<sup>8</sup>.

In the UK, further research is needed to improve our evidence-base on pollinators, including a sustainable monitoring programme and improving our knowledge of the interactions between plants and pollinators.

## Resilience to climate change

Climate change is having an increasing impact on biodiversity in the UK, particularly in marine and upland environments. Rising temperatures are known to be driving extinctions, species declines and changes to the distribution of our wildlife and will place increasing pressure on the UK’s natural capital and the services it provides<sup>9</sup>.

Ecological science allows us to monitor and predict the effects of climate change on our environment. This research has informed major IPCC reports and influenced major policy decisions including the Climate Change Act 2008, as well as being fundamental to the design of effective adaptation and mitigation strategies<sup>10</sup>.



Photo credit: Adam Seward

Future research is required to understand and improve the resilience of the UK’s Protected Area networks to the effects of climate change.

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