

ECOLOGY MATTERS



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BRITISH ECOLOGICAL SOCIETY

The British Ecological Society was founded in 1913, and has over 5,000 members. As an independent, authoritative body and the leading voice for ecologists in the UK, the Society is committed to ensuring that policymakers have access to the best available scientific evidence.

Contact us at Policy@britishecologicalsociety.org

Ecological science is an integral part of finding a way to live well in a world with more people and pressure on our natural resources. Through studying the interactions of living organisms with each other and the environment, we are able to predict the impact of human activity on our natural world and understand how the environment supports our society. Ecology is not environmentalism, but it does have both global and local resonance; it can provide insight into international climate change and localised flooding, endangered species and our garden wildlife.



Bumblebee – ©Dave Goulson



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In the UK, ecologists are able to build on a long history of environmental data collection, which in turn has contributed to the country's pre-eminence in environmental science. The UK hosts centres of world-leading ecological science, but these must be integrated into national policy development, and implemented at the local level in order to maximise the benefits of our natural resource and ensure its long term sustainability. Ecology will be central to the Government's 25 year strategies to restore biodiversity, eradicate bovine TB and improve farming – all commitments made in the Conservative Party manifesto. Ecology also has a role to play in assessing the effectiveness of these policies. This is critical as

we face a world which is likely to change significantly through climate change, technological advances, and geopolitical pressures.

THE VALUE OF



Fishing – ©David Bird

ECOLOGY... ... TO THE ECONOMY

Protecting and enhancing our natural capital, from which we derive benefits such as food, timber, and water, is an essential

part of sustainable economic growth, yet this has been consistently undervalued. The UK National Ecosystem Assessment placed the value of these goods and services at many billions of pounds¹. Ecologists working alongside economists in the Natural Capital Committee have set out an innovative framework for

*... world-leading
ecological science...*

corporations to take account of their natural capital, and present a series of potential environmental investments that offer good economic returns. This is an important step in the sustainable management of our natural resource by business and government alike.

The economic value of insect pollinators to the UK economy has been estimated at £690 million a year², yet these populations are in decline. Ecologists contribute to the wealth of knowledge needed to safeguard this vital service, providing information on

Good health can also bring economic savings; Natural England have estimated that £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 space⁶.

effective and resilient to external pressures.

The systematic review of ecological evidence provides a basis from which to develop policies; ecologists working in Cambridge and Bangor are leading this approach, analysing evidence to assess the effects of

ecological research and ensuring that policy is informed by the latest scientific evidence is crucial if we are to tackle these challenges effectively.

... enhancing our natural capital ...

influential factors such as the spill-over of viruses from commercial to wild pollinator species³, the role of natural habitats on pollination services⁴, the impacts of climate change on pollinators such as bumblebees⁵ and more.

Application of this knowledge not only provides a lifeline for these species, but brings long term economic prosperity, as well as avoiding costs for both business and the public purse.

... TO SOCIETY

The relationship between mental and physical wellbeing and the natural environment is increasingly well understood,

...TO THE ENVIRONMENT

Species and habitats have intrinsic value that should not be underestimated, and are essential for maintaining the benefits we derive from the environment. However the UK is experiencing reductions in all aspects of biodiversity: 60% of species have declined over the last 50 years and 31% have declined strongly⁷.

The Making Space for Nature report, led by former British Ecological Society President Professor Sir John Lawton, called for a new approach to nature conservation underpinned by



Starfish

conservation interventions, the impact of invasive species and more.

Ecologists also work to evaluate policies once they are implemented. Recent evidence has emerged that the EU Birds Directive has had a positive impact on target species,

References

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- 3 Manley *et al.* (2015) Emerging viral disease risk to pollinating insects: ecological, evolutionary and anthropogenic factors. *J. Applied Ecology*.
- 4 Carvalheiro *et al.* (2010) Pollination services decline with distance from natural habitat even in biodiversity-rich areas. *J. Applied Ecology*.
- 5 Kerr *et al.* (2015) Climate change impacts on bumblebees converge across continents. *Science*.
- 6 Natural England (2009) Our Natural Health Service: The role of the natural environment in maintaining healthy lives. Natural England, Sheffield
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Hoverfly



Puffin – ©Cheryl Pilbeam

from the role of microbial biodiversity to the importance of local green spaces. Ecologists are working with health professionals to advance this understanding, identify gaps in our knowledge and find out more about the relationship between different types of natural environments and their influence on health and wellbeing.

ecological science to meet the target of halting the loss of biodiversity by 2020.

including the avocet, marsh harrier and corncrake.

... halting the loss of biodiversity ...

Ecological research allows us to understand the underlying causes of biodiversity loss and ensure that our conservation strategies are efficient, cost

The relationship between people and the environment is at the heart of many of the most important challenges of the 21st century. Investing in