

CONSULTATION

Response Document



43 Southgate Street, Winchester, Hampshire, SO23 9EH, UK
Tel: +44 (0)1962 868 626 | enquiries@cieem.net | www.cieem.net

Biodiversity and Ecosystems (Environmental Audit Committee)

11 September 2020

Introduction to CIEEM

The Chartered Institute of Ecology and Environmental Management (CIEEM), as the leading membership organisation supporting professional ecologists and environmental managers in the United Kingdom and Ireland, welcomes the opportunity to comment on this consultation.

CIEEM was established in 1991 and has over 6,000 members drawn from local authorities, government agencies, industry, environmental consultancy, teaching/research, and voluntary environmental organisations. The Chartered Institute has led the way in defining and raising the standards of ecological and environmental management practice with regard to biodiversity protection and enhancement. It promotes knowledge sharing through events and publications, skills development through its comprehensive training and development programme and best practice through the dissemination of technical guidance for the profession and related disciplines.

CIEEM is a member of:

- Environmental Policy Forum
- IUCN – The World Conservation Union
- Professional Associations Research Network
- Society for the Environment
- United Nations Decade on Biodiversity 2011-2020 Network
- Greener UK
- Irish Forum on Natural Capital (working group member)
- National Biodiversity Forum (Ireland)
- The Environmental Science Association of Ireland

We welcome the opportunity to participate in the inquiry into biodiversity and ecosystems. We would be happy to provide further information on this topic. Please contact Jason Reeves (CIEEM Head of Policy and Communications) at JasonReeves@cieem.net with any queries.

Comments from CIEEM

Summary of Comments

Our key messages can be summarised into 6 points, which are elaborated in the answers to the inquiry questions:

1. Biodiversity is the key central element for delivering wider sustainability.
2. There needs to be joined up strategic planning to reverse biodiversity declines.
3. Biodiversity and ecosystems need to be addressed at a wider level than just development, in particular this needs to include agriculture/land management and the marine environment.
4. Government action needs to be wider than Defra; there needs to be action across all of government, society and the private sector.
5. There needs to be long-term investment, including in skills and expertise.
6. We need to look beyond the UK and take responsibility for our global biodiversity footprint.

We would be delighted to present further evidence to the Committee.

Consultation Questions

The state of biodiversity:

How effectively is the Government monitoring the impact of UK activities on biodiversity, at home and abroad?

The UK is ineffective in monitoring impacts of activities on biodiversity. For example, 47% of English SSSIs have not been monitored within the last 6 years (<https://www.parliament.uk/business/publications/written-questions-answers-statements/written-question/Commons/2018-06-19/155250/>) and these are supposedly our 'best' sites. There is also an over-reliance on the voluntary sector (e.g. amateur naturalists). Whilst Britain has a long-standing record of recording biodiversity, many of the specialists are at or exceeding the statutory retirement age with obvious near-future consequences. The conservation NGOs undertake excellent work, and there is additional value in citizen science, but these schemes are not comprehensive and further expertise is needed. It should also be noted that many biodiversity recorders are at or beyond retirement age - with obvious consequences coming in the near future.

There is considerable need for investment in training and skills in the biodiversity sector, especially botany and taxonomy skills. These skills will become even more important as the sector changes with the introduction of mandatory Biodiversity Net Gain, ongoing changes in the protected species licensing system, and forthcoming changes to the planning system.

Within the construction sector, there is little, if any, appetite to monitor successes of biodiversity mitigation (if actually delivered) due to a lack of enforcement. Baseline data collected pre-planning is generally not placed in the public domain so whilst there is a volume of data collected in locations and environments (e.g. brownfield sites) that amateur naturalists don't venture, this is not made available in a timeframe that could enable more efficient use, benefitting biodiversity and understanding outcomes.

Related to this question is how the Government responds to data. It is all very well monitoring, but there needs to be a transparent, cogent and coherent response. A diabolical and ongoing issue is the outcomes of raptor monitoring within our uplands. Rampant and persistent raptor persecution is continuing, almost unabated, in the Yorkshire Dales, North York Moors and Peak District (England)

and Cairngorms (Scotland) National Parks. For example, since 2018, 43 hen harriers have been illegally killed or missing in suspicious circumstances (see <https://raptorpersecutionscotland.wordpress.com/2020/08/11/43-hen-harriers-missing-or-confirmed-killed-since-2018/>). This equates to one bird every three weeks and excludes all other raptor species known to be illegally killed (e.g. white-tailed eagle, golden eagle, peregrine falcon, goshawk, and common buzzard). This is believed to be the tip of the iceberg. This is well known and as recently as March 2019, Defra acknowledged this (see <https://deframedia.blog.gov.uk/2019/03/20/hen-harrier-study-suggesting-illegal-killing-of-hen-harriers-on-grouse-moors/#:~:text=Raptor%20persecution%2C%20including%20the%20persecution,could%20face%20jail%20if%20convicted.>). Yet nothing meaningful is done other than develop a controversial brood management programme, which has so far resulted in 100% mortality of young (all but one considered to have been missing in suspicious circumstances (see <https://raptorpersecutionscotland.wordpress.com/2020/06/08/the-five-brood-meddled-hen-harriers-from-2019-are-all-missing/>)).

Thus, there is little value in undertaking monitoring unless this forms part of a properly funded and overseen process that delivers meaningful goals with measurable targets that are managed by knowledgeable, experienced professionals with a vested interest in nature conservation and science.

Further to the UK situation, Government needs to take account of the impacts of economic activities and trade on global biodiversity. UK businesses should be accountable and required to report on their natural capital impacts.

How has the Government performed against the Aichi Biodiversity Targets and what further progress is needed?

JNCC has reported (see <https://jncc.gov.uk/our-work/united-kingdom-s-6th-national-report-to-the-convention-on-biological-diversity/>) that the UK Government is making good progress; although this is on the basis of achieving 5 out of 20 targets (25%)!

Of the targets not met, halting biodiversity decline, improving condition of protected sites and funding are a high priority and substantial progress is required.

Further to our comments above, there needs to be substantial investment in biodiversity monitoring to understand changes in biodiversity.

And there must be adaptive management built into biodiversity activities so that we do not just monitor ongoing decline of biodiversity, but rather we must have prompts for real action.

Where should the four nations prioritise resources to tackle biodiversity loss?

Joined Up Thinking

Cross-border co-operation is essential to tackle biodiversity loss; the environment does not respect political borders. Across the UK nations, we must acknowledge the differences in policy and legislation, and requirements for providing biodiversity enhancements and ecosystem resilience. Some consistency in approaches would be beneficial for practitioners working across the UK and for international reporting obligations. There is a specific role for the Joint Nature Conservation Committee (JNCC) in bringing together data and reporting for the whole of the UK, and they must be adequately funded and supported to perform these roles. However, we must remember that the environment and agricultural matters are devolved.

Protections

Protection and monitoring to confirm protection of the protected sites networks need to remain a priority and receive adequate funding. Our protected sites need to be brought back into favourable conservation status through active management and they must be monitored to ensure that they remain high value sites that can act as sources for future expansion of species.

There needs to be a long-term, strategic approach to the management of protected sites, that aligns with the Lawton principles of “more, bigger, better, and joined up”. In addition, this should apply to the wider landscape to provide connectivity and allow natural dispersal and range changes in light of climate change.

Monitoring of sites - and not just those which have statutory designations but also, for example, mitigation sites - needs to be implemented and enforced to ensure targets for these sites are being achieved. Monitoring on all sites can help to improve our knowledge on best practice, which is currently limited.

In addition, greater legal and policy protection for rare plant, invertebrate and fungi species would be useful for protection of biodiversity as these often occur in habitats that have other species of conservation concern or are biodiverse.

One particular habitat for greater attention is brownfield sites. These are grossly under-estimated and many of these sites act as biodiverse refuges amongst urban monocultures. They are substantially vulnerable to loss due to conflict with development.

Uplands are a second area requiring substantial investment in resources. Freshwater and marine environments are also priority areas.

Re-introductions, translocations and rewilding should be considered important tools for enhancing biodiversity and ecosystem resilience in the future. Conversely, the spread of Invasive Non-Native Species must be avoided/managed.

Funding & Support

Policy and legislation needs to be accompanied by adequate funding and resourcing (e.g. in-house expertise), particularly in local authorities and the statutory nature conservation bodies. However the type of funding resources is critical. Making funds available by competitive grant is inefficient in that the cost of officer time spent in composing an application, which can be significant, is lost from the net benefit of the grant. Also, the distribution of competitive funding recipient projects may not necessarily reflect a strategic country-wide view of priorities to tackle biodiversity loss. Instead it may reflect the distribution of staff or departments who have the capacity and competency to navigate the difficult grant application process.

There needs to be a long-term commitment to resourcing staff and expertise (e.g. training) in public bodies. Without this in place, none of the ambitions of the UK governments can be followed through.

There could be a more formal role of Local Authorities in terms of nature conservation beyond their existing duties. For example, Local Authorities could be required and resourced to support and lead Local Nature Partnerships and to produce Local Nature Recovery Action Plans (or their equivalents).

Agriculture

The proposed ‘Public Goods’ agri-environment schemes (e.g as set out in ‘Brexit and our Land’ in Wales and ELMs in England) should leave no doubt that protecting and enhancing ecosystems and

the ecosystem services they provide should be an equal priority alongside food production, and funded accordingly.

Strategically addressing landscape-scale delivery of biodiversity in relation to the forthcoming new agri-environment schemes should be used to help deliver better connectivity of high value sites.

Evaluating measures to conserve and enhance biodiversity:

How should the Environmental Land Management scheme maintain and improve biodiversity? What role might alternative land use play in delivering improvements to biodiversity under the ELM scheme?

We are supportive of the new Environmental Land Management scheme with the premise of public funds for public benefits. The definition and delivery of these public benefits must be led by environmental professionals, with nature-based solutions and biodiversity being the key basis for delivery - healthy, functional biodiversity delivers public benefits such as fresh water, clean air, healthy soils, pollination, etc. Given the complexity of biodiversity and ecosystem services, decisions on public goods need to be based on a deep understanding of biodiversity and natural capital - necessitating the involvement of competent biodiversity professionals.

There needs to be a long-term, strategic approach to the delivery of ELMs, that aligns with the Lawton principles of “more, bigger, better, and joined up”. Rewilding should form part of this strategic approach.

How effective are the new measures to enhance biodiversity within the Environment Bill, particularly biodiversity net gain and Nature Recovery Networks? Do these measures complement existing regulatory frameworks and address issues surrounding how to value nature?

We welcome the introduction of mandatory Biodiversity Net Gain (BNG). We would however like to see BNG expanded beyond the Town and Country Planning Act to include farming/land management and the marine environment.

It should however be noted that BNG is a process that gives us a proxy value for biodiversity that allows us to look at impacts, Biodiversity is far more complex and other elements such as species and ecosystem services need to be taken into account when considering the true value of biodiversity.

The BNG process (including using the metric) involves the assessment of many elements of biodiversity and requires the input of competent experts and professionals.

Beyond the current BNG process, there is interest in Environmental Net Gain (ENG). BNG must be the basis for any wider ENG development. As stated above, healthy, functional biodiversity and ecosystems underpin the delivery of fresh water, clean air, healthy soils, pollination, etc.

How should Nature Recovery Networks be planned, funded and delivered?

Government needs to support the Nature Recovery Network through:

- Funding streams for agriculture and climate mitigation as well as development-funded interventions (such as offsite offsetting to deliver Biodiversity Net Gain) that have a requirement to take account of nature recovery networks so as to avoid the potential for

competing incentives where, in the worst case, we could have public money being spent on interventions that are actually harmful.

- Delivery must be led by competent biodiversity experts and professionals.
- Government needs to ensure that funding and expertise is available - in particular in local authorities and the statutory nature conservation bodies - to ensure adequate delivery.
- Support needs to be given to restoring the condition of protected sites and funding needs to be guaranteed for protected sites to be regularly surveyed so that we know what is there and what is changing.
- We need to protect our most precious natural sites (such as irreplaceable habitats), for example, in the same way that we protect heritage sites.
- Planning and delivery of the Nature Recovery Networks needs to be linked to the ambitions of the Government's 25-Year Environment Plan, and joined up with other policy including agriculture and planning.
- Aligning with the likely forthcoming COP15 framework, Government needs to allocate more land and sea to nature conservation (and ensure that it is in good condition).

How effective are other policies for conservation and enhancement of existing natural habitats, such as the Woodland Grant Schemes?

There is poor join up between policies - particularly across government departments.

Co-ordination of UK environmental policy:

How can policy be better integrated to address biodiversity, climate change and sustainable development?

The climate emergency and biodiversity crisis are inextricably linked, cannot be addressed in isolation, and require urgent and immediate action. We support all those who have acknowledged that ambitious and urgent action is required to address the climate emergency.

The UK Governments' commitments to new legislation and policies aimed at halting declines in biodiversity, delivering net gains and enhancements for biodiversity, and enshrining commitments to net zero greenhouse gas emissions into law are testament to increasing awareness and understanding.

Every government, every business, every organisation and every individual must play a role – in reducing greenhouse gas emissions, assisting in the adaptation to climate change, halting biodiversity loss, and restoring habitats and species – through changes in laws and regulations, policies, behaviours and lifestyles at both local and national levels.

Governments must lead by example to provide the regulatory frameworks that give businesses the confidence to change on a level playing field and that provide incentives to innovate new solutions. Individuals and businesses must step up, through altering our behaviours and lifestyles, in ways that clearly indicate to Governments that we support robust changes in legislation and policy. Co-ordination across the four countries is essential in addressing the integrated crises.

It is vital that biodiversity experts and professionals continue to be at the forefront of targeted action. Nature-based solutions must play a key role in mitigating against and adapting to climate change. Restoration of habitats such as degraded peat bogs, wetlands, mangrove forests, seagrass habitats and woodlands will increase carbon sequestration and storage potential and will have significant benefits for the human population, for example by creating barriers against flooding and

providing refuge from extreme heat. These solutions provide an opportunity to tackle both the climate emergency and biodiversity crisis.

It should be noted that measuring carbon is far simpler than measuring biodiversity. Biodiversity is complex but we must measure it. Measuring biodiversity quality and extent is a better evaluation of global environmental impacts than simply measuring carbon. As noted in previous questions, by addressing biodiversity loss we can in many ways address the climate emergency.

Please see CIEEM briefings below for further information:

- [Climate Emergency and Biodiversity Crisis Declaration](#)
- [Climate Emergency and Biodiversity Crisis: The Facts and Figures](#)
- [Using Nature-Based Solutions to Tackle the Climate Emergency and Biodiversity Crisis](#)

How can biodiversity and ecosystems help achieve the air, soil and water quality objectives in the 25 Year Environment Plan?

Please see answers to questions above. If we can reverse the decline in biodiversity (nationally and globally) we can address other sustainability issues. Nature-based solutions should be the cornerstone of delivering the 25-Year Environment Plan. Healthy, functional biodiversity delivers public benefits such as fresh water, clean air, healthy soils, pollination, etc.

Competent biodiversity experts and professionals need to be at the heart of delivering the 25-Year Environment Plan.

How well is the UK addressing biodiversity loss in its Overseas Territories and in international development partnerships with other countries?

The UK Overseas Territories (OTs) still face significant challenges in addressing biodiversity loss, most notably:

- Lack of data, such as soil properties, weather patterns at an island scale, climate change prediction data, species niche occupancy and environmental envelopes for key endemics species
- Lack of knowledge of the importance of biodiversity (especially with respect to key decision-makers)
- Lack of personnel with the skills and experience to deliver environmental projects
- Lack of funding

The OTs are concerned about funding for environmental projects which will only be available under one programme (Darwin Plus) following the UK's exit from the EU. The diversity of the current funding programmes means that different types of projects can run concurrently. The EU BEST project (voluntary scheme for Biodiversity and Ecosystem Services in Territories of European overseas) can tackle larger projects which involve infrastructure and on the ground action, for example, the 'Developing a Site-based Conservation Approach for Sei Whales, *Balaenoptera borealis*, at Berkeley Sound' project.

It is difficult for commercial companies to lead Darwin Plus bids because of the cost structure. Whilst we acknowledge that the funding should be for a given OT and not for UK firms, there is a valuable role for commercial UK organisations to input their knowledge and expertise when working in partnership with research and conservation parties. We feel that another type of fund would be useful to address this and to enable the transfer of best practice projects from the UK to the OTs and visa-versa.

We strongly recommend a variety of funding programs post-Brexit aimed at different types of environmental projects.

Large research projects involving the OTs are very difficult for UK universities to obtain funding for. In order to qualify for funding, most research must be delivered on OT islands which are developing countries and or transitioning countries. Research funds which include the UK OTs even as project partners would greatly enhance the chance of funding and therefore the scientific understanding of the biodiversity of the OT islands. There is more that could be done to ensure that research is linked with the needs of OTs and answers significant knowledge gaps. A portal for OTs to post research questions which can be accessed by those studying environmental subjects in the UK would help address this gap.

In negotiating future trade agreements, the UK governments must ensure that goods and services are based on no net loss of biodiversity.

What outcomes and protections should the UK Government be pushing for at the forthcoming UN negotiations on the post-2020 global biodiversity framework at the Convention on Biological Diversity COP 15?

We advocate that the Government should call for:

1. An increase in the size and level of protection for protected areas.
2. Develop a framework for business to report on biodiversity and natural capital impacts.
3. Apply biodiversity enhancement (e.g. Biodiversity Net Gain) across all sectors, including in particular farming and fishing.

Economics and biodiversity:

What are the possible approaches to balancing economic growth and conservation of nature and its contributions? Is there evidence these approaches work and can be implemented?

In 1997, [Constanza et al.](#) estimated that the minimum average annual economic value of the biosphere was US\$33 trillion. Total global GDP in 1997 was around US\$45 trillion. The [estimate was updated in 2011](#) for a total global ecosystem services value of between US\$125 and US\$145 trillion per year. The authors noted that “global estimates expressed in monetary accounting units are useful to highlight the magnitude of eco-services” and that “these services must be (and are being) valued, and we need new, common asset institutions to better take these values into account.”

[The Economics of Ecosystems and Biodiversity \(TEEB\)](#) is a global initiative with the “principal objective to mainstream the values of biodiversity and ecosystem services into decision-making at all levels” by “following a structured approach to valuation that helps decision-makers recognize the wide range of benefits provided by ecosystems and biodiversity, demonstrate their values in economic terms and, where appropriate, capture those values in decision-making.”

And currently underway is the [Dasgupta Review on the Economics of Biodiversity](#).

We must remember that there are dangers with putting economic values on complex systems that we don't fully understand, but at least the above shows the enormous value that the natural world does provide.

The concept of “[doughnut economics](#)” should be explored as an alternative approach. There are examples from New Zealand and Amsterdam.

What does the UK Government need to do to maximise human prosperity – in terms of health, economic, and social wellbeing—within the ecological and resource constraints of a finite planet? What alternative models and measures of economic welfare can feasibly help achieve this?

Please see previous question. We must also recognise that there are better ways to measure prosperity than GDP, for example, by using human health and well-being.

Pairing nature-based solutions to climate change with biodiversity:

Which nature-based solutions are most effective in achieving both climate and biodiversity goals?

Examples of nature-based solutions (NbS) include restoring habitats such as peatlands, woodlands and kelp beds to absorb carbon dioxide. Creating and restoring wetlands also works to protect against flooding; and creating green and blue spaces in urban areas can also combat urban heating and enhance human health.

NbS for the current climate emergency need to increase carbon sequestration by improving existing habitats and/or creating different habitats to combat rising greenhouse gas emission levels.

Consideration should also be given to the timescale of habitat creation as initially there may be a rise in greenhouse gas levels, for example, wetlands can produce methane when land is initially flooded. However, over the longer-term, these habitats will store carbon.

Soils also play a significant role in carbon sequestration and storage due to the burying of organic matter and storage of carbon in root systems. The extent of the organic matter content, in the form of humus, depends largely on the above ground habitat and management. Studies have shown that conversion from farmland to grassland and species-poor to species-rich grassland can significantly increase the soil carbon sequestration rate. The net impact on both carbon sequestration and biodiversity should be considered fully when creating new habitat.

Similarly, healthy fungal networks in soil are essential as they account for a large proportion of carbon sequestration and storage in the soil. These fungi can be depleted by contaminants such as pesticides and nitrogen pollution which can reduce their abundance or viability and increases soil bacteria which could potentially degrade soil more rapidly and release carbon.

Creation of habitat, whether it is grassland, wetland, woodland or other high value carbon sequestering types, will increase soil carbon on previously degraded soil or bare ground. However, to provide these benefits into the future, the habitat needs to be maintained.

With regards to tree planting, it must be noted that this should not always be the automatic intervention and that it must be on the basis of “the right tree in the right place”.

Please see our [Using Nature-Based Solutions to Tackle the Climate Emergency and Biodiversity Crisis](#) briefing for more information.

What would constitute clear indicators of progress and cost-effectiveness of nature-based solutions and how should trade-offs and co-benefits associated

with nature-based solutions, biodiversity and socioeconomic outcomes be considered?

The Intergovernmental Panel on Climate Change (IPCC) has recognised the need for NbS to form a significant part of the response to the climate emergency. However, they have also warned that some types of NbS, such as afforestation, could have adverse effects on other Sustainable Development Goal areas including biodiversity and food security if appropriate scale and land type are not considered fully. Opportunity mapping and modelling should be used to identify optimum land type and area scale, which can then be implemented as part of a strategic plan, for example, the Nature Recovery Network in England, the Local Nature Partnerships in Wales and the master planning approach championed by Scottish Natural Heritage. Each site considered for NbS must be assessed individually, and in its landscape context, so that appropriate action can be taken.

The climate emergency and biodiversity crisis must be addressed in tandem and, if properly implemented, NbS can provide an effective and economic tool. As such, ecosystem services afforded by NbS should also be considered in Cost Benefit Analyses.

In addition, one of the keys to implementing NbS successfully is ensuring buy-in from all stakeholders, particularly landowners and the local community. This is best achieved by developing projects with stakeholders from the outset.

The IUCN is currently working on a global standard which will allow users to design solutions, verify projects and upscale pilot projects. This standard will further increase the effectiveness and quality of NbS, provided they are implemented by appropriately qualified ecologists and environmental managers. The IUCN and Commission on Ecosystem Management have also developed eight core principles to help with the implementation of NbS.

These state that NbS:

1. embrace nature conservation norms (and principles);
2. can be implemented alone or in an integrated manner with other solutions to societal challenges (e.g. technological and engineering solutions);
3. are determined by site-specific natural and cultural contexts that include traditional, local and scientific knowledge;
4. produce societal benefits in a fair and equitable way in a manner that promotes transparency and broad participation;
5. maintain biological and cultural diversity and the ability of ecosystems to evolve over time
6. are applied at a landscape scale;
7. recognize and address the trade-offs between the production of a few immediate economic benefits for development, and future options for the production of the full range of ecosystem services; and
8. are an integral part of the overall design of policies, and measures or actions, to address a specific challenge.

Please see our [Using Nature-Based Solutions to Tackle the Climate Emergency and Biodiversity Crisis](#) briefing for more information.

How can funding be mobilised to support effective nature-based solutions to climate change? How can the private sector be encouraged to contribute to funding?

There is a useful example in what HSBC has been doing (<https://www.nytimes.com/reuters/2020/08/26/business/26reuters-climate-change-hsbc-pollination.html>) but again this needs joined up thinking. There is an opportunity to introduce Environmental

Net Gain as set out by Defra, beginning with biodiversity and then adding on other benefits so that we don't end up with perverse incentives causing harm (like the tax breaks for tree planting that result in widespread loss of biodiversity damage).