

Sustainability Committee

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Inquiry into Biodiversity in Wales – Evidence from RSPB Cymru - 24 September 2010

7 October 2010

Why did Wales fail to achieve the 2010 targets for halting biodiversity loss and what changes of approach are needed to ensure greater progress in the future?

"While many responses have been in the right direction, the relevant policies have been inadequately targeted, implemented and funded. Above all, biodiversity concerns must be integrated across all parts of government and business, and the economic value of biodiversity needs to be accounted for adequately in decision making. Only then will we be able to address the problem"

Ahmed Djoghlaif, Executive Secretary to the Convention on Biological Diversity.

There are many reasons why Wales (along with other countries) failed to halt the loss of biodiversity. The main drivers of change being habitat loss and deterioration (in quality) due to:

- Conversion to and intensification of agriculture and forestry; over-exploitation of resources, including species; eutrophication (caused by critical levels of nitrogen in water bodies); expansion of urban and industrial infrastructure.
- Failure of Government programmes and decision-making to integrate biodiversity considerations – too many trade offs.
- Inadequacy of scale, and insufficient resourcing of targeted conservation efforts, (including protected site designation and management).

Our economy is central to this failure but it could also be central to a solution. It is expected that the economic value of the "natural goods and services" provided would be between 10 and 100 times the cost of saving the component habitats and species, which constitute natural systems¹.

We need to rapidly escalate the cultural shift that will engender a common understanding of the limits we need to respect which define our place in nature and the value of the natural environment whether or not it fits into our financial and societal systems.

¹ The Economics of Ecosystems and Biodiversity <http://www.teebweb.org/>

Restoring ecosystems and making the space for biodiversity that will in turn secure the natural resources we require should be a mission that is shared by all departments and levels of Government. We need the Welsh Assembly Government to set a future vision of an ecologically sustainable Wales and, to set out a road map to get us there, including dedicated interventions and measurable targets.

In challenging financial times, we need to scrutinise resource allocation to biodiversity and ecosystem restoration on the same level as other priority areas of Welsh Assembly Government expenditure such as primary health care, agriculture and infrastructure development. We need all levels of Government to invest in biodiversity at a level commensurate with its real value to society, and the real costs of allowing it to deteriorate. Moreover, we need the restoration of Wales' natural environment to be integrated into current and future strategies and mechanisms for economic renewal, public health and wellbeing, and infrastructure development.

The people of Wales are the ultimate beneficiaries and the ultimate drivers of the change that is required; it is people who can provide the mandate to ensure our politicians provide the policy framework that will make a difference; it is people in business who can champion the green economy of which biodiversity conservation is a central part; and it is ordinary people who can nurture the vision to see a world where we make space for biodiversity; this is the only way to ensure the health, wealth and well-being of future generations.

Recent thinking under the Wales Spatial Plan, on Green Infrastructure, the development of Glastir, and the initiation of work towards a new Natural Environment Framework, are signs that the cultural shift we need is happening in some parts of the Welsh Assembly Government. As a voluntary organisation, we recognise our role in informing the Welsh public - the ultimate beneficiaries - about the plight of our wildlife, its value and the imperative to turn things around.

RSPB Cymru firmly believes that in order to halt loss and enable biodiversity to recover, these new approaches need to find opportunities to build upon, rather than replace, current conservation tools.

Key Points

- Although the 2010 target has been missed, we believe the focus and energy behind it should be captured and built upon to halt and reverse biodiversity loss leading up to 2020 and further to 2026.
- Human existence and well being is based on biodiversity and ecosystem services. As such, biodiversity is a public good. It improves our quality of life and has its own intrinsic value. Currently the true socio-economic value of biodiversity and the ecosystem services/benefits it underpins are inadequately assessed.
- We need to restore the natural environment so that we have a coherent and resilient ecological network within which species and habitats can adapt and move. Climate change creates a stronger imperative than ever to address the

range of other pressures we place on the natural environment. Biodiversity and climate change are two sides of the same coin – neither can be solved in isolation.

- Conservation of biodiversity and, where necessary, restoration of ecosystems can be cost effective interventions for both mitigation and adaptation to climate change, often with substantial co-benefits.
- We need future efforts to focus on delivering tangible benefits for wildlife and natural ecosystems at a practical level. Furthermore, any future target or goals can only catalyse effective biodiversity conservation if systems are in place to tell Governments, businesses, and individuals the consequences of their actions.
- There is an urgent need to improve the monitoring and evaluation systems for biodiversity.
- Sectoral and cross-sectoral policies, programmes and strategies as well as planning processes must be coherent, consistent and underpinned by sound science, leading to clear practical outcomes for biodiversity conservation.
- Natural resources must be used sustainably – economic and social development in Wales must be planned and delivered within existing ecological boundaries.
- We are all part of our natural environment and have a stake in its conservation - caring for the natural environment is good for people as well as wildlife; as such, public participation should be core to decision-making.
- We urge the Committee to make strong recommendations relating to the improvement of our terrestrial and marine protected areas to create robust ecological networks, complimented by measures for the wider countryside and sea – including better integration of biodiversity into agricultural management and spatial planning – to bring the wildlife back to Wales’ countryside.

1. Introduction

2010 is the Year of Biodiversity. A global acknowledgment of the diversity of life on our planet and recognition of its fundamental importance to our health, wealth and well-being both now and into the future. It is also the year in which we have failed to halt the loss of our biodiversity both in Wales and the across the European Union (EU).

The Assembly Government has committed itself to two international and one national target for 2010: significantly to reduce the current rate of biodiversity loss by 2010 (Convention on Biological Diversity; CBD); to halt the loss of biodiversity by 2010 (EU); and that sites of international, national and local importance in Wales should be in favourable condition to support the species and habitats for which they have been identified with 95 per cent of international sites in favourable condition by 2010 (Environment Strategy Wales; ESW).

A Living Wales – narrative, Welsh Assembly Government 2010.

The ESW also provides a description of the outcomes Wales seeks when our efforts to conserve our biodiversity and live sustainably have been successful.

The loss of biodiversity has been halted and we can see a definite recovery in the number, range and genetic diversity of species, including those species that need very specific conditions to survive (2010 to halt loss and recovery underway by 2026).

Environment Strategy Wales, Welsh Assembly Government 2006

The wider environment is more favourable to biodiversity through appropriate management, reduced habitat fragmentation and increased extent and interconnectivity of habitats (2010).

Environment Strategy Wales, Welsh Assembly Government 2006

RSPB Cymru asserts there are four basic prerequisites for pursuing these commitments:

- A strategic and spatially defined framework for necessary action, for both the public and private sector;
- Effective implementation of appropriate substantive and supportive legislation;
- An evidence base founded in solid science; and
- Effective governance that builds capacity and mobilises sufficient resources.

We feel there has been important progress in developing and implementing some of the necessary policy and legislative framework to meet these commitments but we have consistently failed to bring them all together in a concerted effort to halt biodiversity loss.

We urge the Committee to recommend the Welsh Assembly Government integrate biodiversity commitments across all Government departments, through measurable targets against which all Ministers can be held to account.

It is not all bad - not all species are declining, not all habitats are still being lost or broken up and our knowledge and experience of habitat restoration and re-creation is improving. There has been some significant progress, often through the conservation efforts of statutory bodies, the voluntary sector and landowners. Although overall, we are losing more species than we are gaining. Across much of our wildlife it is the more 'specialist' species that tend to be in decline while those 'generalists' that can use a variety of habitats often of poorer quality, tend to be coping better - an indication of ongoing declines in the quality and variety of Wales' natural environment.

In the past decade there has been a significant increase in the numbers of people willing to make contributions of time (through volunteering) and/or money (through donations and memberships of wildlife and conservation organisations) to biodiversity conservation. This activity suggests there are a growing number of people who have the understanding and conviction to speak out and act for nature.

Looking forward to 2020 and 2026, we need to build on the success of past effort and move forward intelligently and with confidence to develop the architecture required to

meet the challenges facing us now and into the future. It is well recognised that biodiversity loss and climate change are fundamentally linked, together they present a challenge to Wales beyond any current measure of experience. It is not so well recognised that preserving and enhancing biodiversity provides the opportunity to meet other challenges facing Welsh society; economic instability; social-dislocation, changing levels of health and well-being. By providing the direction and capacity for improving the integrity of the ecosystems on which our rural and urban communities and our productive systems (agriculture, fisheries, forestry for example) depend we can also make significant progress on addressing these other socio-economic challenges.

2. Managing the Drivers of Change Impacting on Biodiversity

What delivery mechanisms were in place to achieve the 2010 targets, why did these fail to deliver and what are the solutions? (Questions 1 and 2)

Many of the direct drivers of biodiversity loss are strongly correlated with economic growth and in obvious contrast to the ethic and purpose of sustainable development, the central organising principle of the Welsh Assembly Government (refer to Annex 1 for definition and more detail on causes of biodiversity loss; Annex 2 for evidence of actual ongoing declines in principal biodiversity species as defined by the Welsh Assembly Government).

There was a range of mechanisms in place to manage these drivers and halt biodiversity loss in Wales by 2010². These mechanisms were deployed with varying levels of success and in some cases provide a basis to build-on in future efforts to conserve biodiversity. However, many more of these mechanisms were poorly designed, ineffectively implemented and/or inadequately monitored to allow accurate measures of their efficacy and inform adaptive decision-making (refer to Annex 3 for examples of some of the key delivery mechanisms).

Reliance on these systems in their current state is not an acceptable approach to meeting biodiversity targets as it will continue to fail to deliver the appropriate regime of habitat protection, management, restoration and creation measures necessary to maintain and restore species and habitats. However, it should be possible to design an approach that builds on these existing programmes but ensures they are capable of implementing the necessary conservation measures in a precise and effective manner. This does not necessitate a complete refit but needs to focus on enabling existing mechanisms to be more effective and far reaching in combination with harnessing the power of good policy, the power of the markets and the power of civil society to improve our natural environment and secure the benefits it provides.

This section highlights a range of these main delivery mechanisms, provides a short assessment of their efficacy and proposes solutions the shortcomings of those mechanisms RSPB Cymru feel need most attention if biodiversity loss is to be halted, with recovery underway by 2020.

² See <http://www.biodiversitywales.org.uk>

2.1. Protected Areas

Designated sites and protected landscapes should be the cornerstone of our nature conservation delivery. However, we have generally failed to implement the Nature Directives (Birds and Habitat Directives) effectively and integrate them fully with the domestic legislation and guidance that underpins them. Furthermore, our National Parks and Areas of Outstanding Beauty (AONBs) demonstrate little additional benefits for wildlife than the wider countryside around them.

Through the Outcome 21 project, the condition of SACs and SPAs is much better understood, and there is a much better system for monitoring changes in management. However, this activity has largely focussed on the process of putting a system in place and there is not yet a clear route through this system to delivery of conservation objectives through proper management on the ground. Furthermore, there are limitations to this system and the capacity within CCW that do not allow effective monitoring of implementation and assessment of the success of this management.

There is still a huge gap in knowledge of the condition of SSSI features. CCW have yet to complete baseline assessments for the condition of all SSSI features in Wales, but published the results of a rapid review of feature condition in 2006³, which suggested less than half (47%) of notified features were in favourable condition (this was based on a sample of less than half of notified features, 48%). At present there is no effective and coherent monitoring system in place, which allows us to assess our progress with any confidence.

The Lawton Review⁴, which reported on 24 September, considered whether England's wildlife sites comprise a coherent and resilient ecological network. Its resounding conclusion was that they do not, but that such a network is vital if we are to enable wildlife to cope with the pressures of climate change, as well as improving the ability of our natural environment to provide high quality ecosystem services in the long term.

The review makes over 20 recommendations as to how to achieve a coherent and resilient ecological network stating, basically the current network of sites needs to be "more, bigger, better and joined". That means managing current sites better and increasing their size; enhancing the ecological connections between sites; creating new sites; and reducing the pressures on wildlife by improving the wider environment. We firmly believe that most if not all of the report's findings will hold true for Wales as well as England, and we hope that the development of the Natural Environment Framework will enable this to be fully explored and addressed.

We urge the Committee to recommend that the Welsh Assembly Government fully consider of the findings of the Lawton review in the context of our protected areas in

³ See <http://www.ccw.gov.uk/landscape--wildlife/protecting-our-landscape/special-landscapes--sites/protected-landscapes/sssissssi--report/condition-of-features.aspx>

⁴ See <http://www.defra.gov.uk/environment/biodiversity/documents/201009space-for-nature.pdf>

Wales and incorporate the appropriate recommendations into their future management and development.

In a positive light, the passing of the Marine and Coastal Access Act 2009 was a significant step forward. It not only presents the potential for much needed improvement to marine biodiversity conservation and sustainable management, but could also lead by example by requiring an ecologically coherent network of marine protected areas. However, the proof will be in the delivery. It is imperative the Act is implemented in such a way as to significantly improve the management of our seas and protect our marine wildlife ensuring the work to identify and put in place Highly Protected Marine Conservation Zones (HPMCZ), designated as part of an ecologically coherent network of well-managed MPAs, is achieved by 2012.

While the current suite of protected sites was not established to provide ecosystem services, it is likely the pattern of land use and land management within Wales' wildlife sites has served to protect ecosystem function that provides supporting, provisioning and regulating services, when compared with the overall trend in the wider countryside and sea.

At present there are insufficient valuation studies to provide a robust guide to the benefits we get from protected sites in Wales. However, Defra estimate the combined use value of the SSSI network in England and Wales to be between £372 million - £1,110 million per year. Non-use values, such as the existence value people place on species, are more problematic to estimate because of limits on the public's apparent ability to understand and value biodiversity. Defra; however, believe there is evidence to suggest such non-use values are actually even greater than use values⁵.

Recognising the fundamental importance of protected areas to people and wildlife we urge the Committee to recommend:

- **Protecting and managing significant areas for nature conservation must remain a cornerstone of government policy and must be transferable to conservation action.**
- **The Welsh Assembly Government must ensure there are adaptive and effective compliance and ecological monitoring programmes in pace to assess and continually improve delivery of appropriate management of protected areas**

⁵ Source for these estimates are: <http://statistics.defra.gov.uk/esg/reports/sssi/onepage.pdf>

⁵ Favourable Reference Values (FRVs) are the benchmarks against which the achievement of Favourable Conservation Status is measured, as set out in EU guidelines under Article 17 of the EU Habitats Directive.

- **The Welsh Assembly Government must mobilise sufficient resources to ensure the proper management and development of protected areas to allow them to take a central role in a coherent and resilient ecological network for Wales. They cannot rely on optional management through agri-environment schemes to deliver a comprehensive and representative network.**
- **Delivery of an ecological network of protected areas must be underpinned by strong leadership and partnership. Land owned or managed by statutory, non-government and private organisations and individuals must function as component parts of a coherent network.**
- **Each and every SSSI in Wales must have conservation objectives that build in climate resilience, relate to quantifiable Favourable Reference Values⁶ for species and habitats, and incorporate regular review in the face of uncertainty.**

2.2. Wider Countryside and Sea

Land

Much of the Wales is farmed, with agricultural activity dominating the countryside and impacting directly and indirectly on the wildlife that shares this landscape. Together agriculture, biodiversity and ecosystems form a finely interwoven web of impacts and challenges. They also face many common threats, with demands on agriculture and pressure on biodiversity forcing the two into competition.

This situation must be addressed as it is clear biodiversity is fundamental to agriculture, food production and sustainable development. Therefore, biodiversity loss represents a significant business risk to the agricultural sector and the down-stream value chain, for example the food and textile industries. They face operational risks, including diminishing supplies or rising costs of key resources and inputs, such as water.

Past agri-environment schemes (AES) and Woodland Grant Schemes (WGS) have been viewed as one of the main financial mechanisms for halting biodiversity loss. However, the broad and shallow AES schemes, Tir Mynydd and Tir Cynnal, were not designed to deliver any sort of meaningful biodiversity gains and Woodland Grant Schemes were centred on forestry production rather than sustainable forestry management.

⁶ Favourable Reference Values (FRVs) are the benchmarks against which the achievement of Favourable Conservation Status is measured, as set out in EU guidelines under Article 17 of the EU Habitats Directive.

Generally, the habitat prescriptions within the higher level scheme, Tir Gofal, either individually or in combination, show the potential to benefit some declining farmland biodiversity. However, this has not always been realised due to a lack of joined up or strategic approach in their delivery (see Annex 4 for more detailed assessment of AES in Wales).

The effect of Tir Gofal on biodiversity is currently being evaluated by the RSPB in partnership with other conservation NGOs (contracted by WAG). This is proving to be a challenge as no base line data was collected at the time when schemes were set up.

RSPB Cymru is supportive of the Welsh Assembly's development of a new AES for Wales, Glastir and, along with other NGOs have been involved in providing technical advice, data and information to the process. We are optimistic the new scheme can provide a **sound ecological basis and competitive financial incentive** to farmers to manage their land in such a way as it will realise its productive potential as well as protecting and enhancing its biodiversity values.

However, in order for Glastir to make a meaningful contribution to sustainable development (and thus biodiversity conservation) in Wales it **must be integrated across other policy frameworks, such as the emerging Natural Environment Framework, A Living Wales**. It must also operate with a coherent and consistent approach to delivery across all of its objectives ensuring equity in prioritisation and allocation of resources.

We urge the Committee to recommend that the following matters must be addressed in the design and implementation of Glastir in order for current (ESW) and future commitments to biodiversity to be achieved. The Welsh Assembly must:

- Ensure it is simple and intuitive for farmers to go for their appropriate regional package combination of options (in the All Wales Element; AWE) to gain entry to the scheme and to implement them at the right scale, in the right places and managed in the right way to produce benefits for widespread biodiversity.
- Ensure there is a logical progression for farmers to enter the Targeted Element (TE) of the scheme from the AWE, i.e. that options approved in their AWE agreement are consistent with delivery of TE objectives and options for that holding.
- Mobilise sufficient resources (not necessarily from within the Axis 2 budget) to ensure farmers are supported with appropriate advice and guidance via a well resourced and well trained team of Glastir Contract Managers (under the previous scheme they were called Tir Gofal Project Officers). Lessons from previous AES would suggest at least 60 Contract Managers would be required to support farmers in the development and implementation of agreements⁷. This capacity will significantly improve landowner engagement as well as the quality and cost effectiveness of agreements. Further, it will help to avoid the significant

⁷ In its most productive period (in terms of numbers of agreement and biodiversity delivery) Tir Gofal had 60 project officers supporting agreement holders.

potential risk of not being able to commit the funds and having to send it back to Brussels.

- Ensure TE agreements are developed and implemented in such a way as to provide all of the requirements of the target species within an appropriate area (that they operate at a farm or landscape level as necessary) and of an appropriate quality; and/or undertake all of the management measures to bring a target habitat into favourable condition; and/or undertake all of the management measures to achieve expansion of a target habitat and maintain it in favourable condition.
- Allocate sufficient resources to developing and implementing a robust monitoring programme for Glastir, a programme that not only meets that required by European Regulation but one that goes beyond to demonstrate best practice to the rest of Europe. Such monitoring is vital in measuring the success of AES, and will aid the Welsh Assembly in demonstrating that success. Without a strong monitoring programme, the potential of the scheme cannot be realised and the value of Glastir will be reduced, as benefits will not be able to be demonstrated. See Annex 6 for specific recommendations.
- Ensure expenditure allocated to delivery of biodiversity objectives is explicitly linked to measurable and specific targets as agreed by the Wales Biodiversity Partnership through the Biodiversity Framework for Wales.

Despite the widespread recognition that AES are one of the major delivery mechanisms for wildlife conservation and protected area management, the Welsh Assembly's Rural Affairs department currently directs less than 5% of its spending on agriculture directly to biodiversity management through AES⁸.

We urge the Sustainability Committee to recommend the Minister for Rural Affairs takes a twin-track approach to meeting their departments share of the Welsh Assembly's commitment to biodiversity conservation by:

1. redirecting a greater proportion of the overall payments to the agriculture sector into biodiversity and ecosystem management - providing better value for money for the tax payer and ensuring public funding delivers public benefits. This could be initiated now in the current RDP period (2007-13), for example, to move more money into Technical Assistance for farmers to deliver biodiversity through the AWE and set the scene for allocating more resources to delivery of TE objectives and a more sustainable and purposeful Glastir scheme from 2013 onwards.
2. taking a strong stance within the EU to reform the Common Agriculture Policy (CAP) to move away from direct income support and instead use this money to build a resilient land management sector (agriculture, forestry etc) in Wales that

⁸ 11.5% of WAG's agriculture spending goes to agri-environment schemes, roughly 39% of this goes to TG at present.

protects and conserves its natural resources and biodiversity values. Provided it is designed and implemented effectively (see points above) increasing the capacity of Glastir to deliver on its objectives could be central to this reform in Wales. See 'Proposal for a New Common Agricultural Policy' BirdLife et al 2010.

Though environmental protection measures (regulatory and policy frameworks) and AES can provide mechanisms to set environmental baselines and protect biodiversity they can only form part of an overall approach to delivering positive targets. To advance the goal of encouraging agriculture, which protects or enhances biodiversity, there is a compelling need to devise workable market mechanisms to quantify and monetise the economic value of agriculture's ecosystem services for the beneficiaries of those services.

Many companies, both in the agricultural sector and further down the value chain, are willing to make the investments and develop the technologies and approaches to contribute towards sustainable agriculture as witnessed by the number of business-led initiatives established to standardise certification procedures and environmental standards. See section on good practice.

However, to do so they need to gain an economic return on investment and therefore rely on supportive science-based policy frameworks and Intellectual Property Rights. The Welsh Assembly needs to set targets for these market based mechanisms and provide the necessary policy and market frameworks. However, delivering such targets will remain moot if adequate enforcement mechanisms are not in place.

Similarly, any policy framework needs to be properly integrated across a wide variety of sectors and technologies, as well as regions, to ensure that it does not create perverse or counter-incentives. The emerging Natural Environment Framework, A living Wales may provide these solutions (see section on Building a Practical Policy Framework for Delivering Biodiversity) and leading NGOs, RSPB Cymru included are ready to work with governments to achieve these objectives.

Sea

In addition to Marine Protected Areas, the Marine Act also enables Welsh Ministers to develop holistic marine plans for both inshore and offshore waters – for the first time there will be an overview of all activities in our seas, so that the Welsh Government and other regulators can ensure we do not push the environment beyond its limits.

Establishment of a proper spatial framework for marine management is crucial if the Welsh Government's ambitious targets for renewable energy from offshore wind, wave and tidal power are to be realised in a timely and sustainable way. Such a framework should also reduce developers' costs by helping to identify the most suitable areas for different types of development and sea use.

We urge the Committee to recommend the Welsh Assembly develop comprehensive Marine Spatial Plans for Welsh Seas for implementation by 2014 – this will enable a sustainable, ecosystem based approach to activity in the marine environment that delivers for wildlife, ecosystem services and development such as renewable energy.

2.3. Urban and Coastal Areas

Our urban centres and their associated footprint, along with our coastal areas are subject to a range of pressures from development and business activity, the way we produce and consume, which has large and pervasive impacts on biodiversity.

The planning system in Wales is one of the most powerful public policy levers which can be brought to bear on biodiversity losses. It has thus far failed to make a full contribution to halting the decline because it is based largely on the practice of setting the biodiversity interest of a development site "head to head" with proponents stated need to develop the site, in a "winner-takes-all" scenario. In the vast majority of cases, the perceived need to develop the site outweighs its perceived value in biodiversity terms, and the site is developed.

Whilst Technical Advice Note 5 (TAN 5, 2009) does state that it is a high-level objective of the town and country planning system to have no net loss of biodiversity, a more formalised stepwise approach is needed, to ensure that the steps of mitigation and compensation (where all else fails, and where the need for the development clearly outweighs the site's biodiversity value) are fully pursued in all cases. The Welsh Assembly Government should ensure that it is the rule rather than the exception, that mitigation and compensation are fully pursued.

Research indicates biodiversity *per se* is not a barrier to socio-economic development in Wales and that there are ways and means to combine biodiversity delivery and ecologically sustainable development⁹.

We urge the sustainability Committee to recommend the following solutions are developed and implemented with regard to the planning system in Wales:

- The requirements of biodiversity – habitats and ecosystems must be recognised as a land-use alongside agriculture, development and mineral extraction within the planning system¹⁰. See also Habitat Opportunity as a Positive Planning Tool in the best practice section.
- As far as possible planning policy should be spatially expressed providing a visual reference, a level of certainty for developers and protection and opportunity for enhancement of biodiversity values.

The Networked Environment Regions (NER) concept, developed under the Wales Spatial Plan, highlights the need to help business recognise the value of building “green infrastructure” – providing space for biodiversity to thrive which in turn provides

⁹ Lee R. 2010. Delivering landscape-scale habitat restoration and creation through spatial planning. RSPB. Sandy (Unpublished report).

¹⁰ Byrne J. Elliott D. Lindley P. Thorpe R. Webb M. 2010. Clocaenog Statement of Masterplanning Principles. RSPB Cymru. Cardiff.

ecosystem services for people – into development, and the potential for positive planning to deliver multiple benefits.

We urge the Committee to recommend the NER be taken forward under the Natural Environment Framework as part of a blueprint for a coherent and resilient ecological network of local and regional wildlife sites.

3. Biodiversity Duty and List of Principle Biodiversity Species

The Natural Environment and Rural Communities (NERC) Act 2006 provides that any public body or statutory undertaker in England and Wales must have regard to the purpose of conservation of biological diversity in the exercise of their functions (section 40). Wales, particularly the Welsh Assembly Government and CCW, has made significant progress in progressing some of the objectives of the duty and had some impact in increasing the integration of biodiversity within public body functions.

However, the required cultural shift has not occurred to the required breadth or depth across or within public bodies and it is questionable if the duty has resulted in any assistance in the upkeep, management, re-establishment or creation of habitats nor halted the decline in or promoted recovery in the conservation status of any priority species.

Recent research undertaken by Defra¹¹ clearly demonstrates the need for local authorities, the Welsh Assembly Government and its agencies, and AONB boards/National Park authorities to significantly elevate biodiversity conservation to a high priority level within their financial, delivery, and accounting/reporting functions.

We urge the Committee to recommend:

- the Welsh Assembly Government continue the current positive measures taken to promote the duty and facilitate its implementation amongst Local Authorities and National Parks and extend it to **AONBs and Community Councils**.
- all public bodies **mobilise sufficient resources** to build the capacity within their organisation to enable thorough implementation of the duty.

The Act also requires the Welsh Assembly to maintain a list of Principle Biodiversity Species (section 42) to facilitate exercising of the section 40 duties. The list has been comprehensively assessed against objective criteria and adopted by most delivery agents (NGOs, Local Authorities and the Welsh Assembly) as a means of focusing activity towards those components of biodiversity that are most at risk.

We urge the Committee to recommend:

¹¹ Defra 2010. Review of the Biodiversity contained in Section 40 of the Nerc Act 2006.

- all local authorities use this list as a minimum basis for demonstrating commitment and accountability for biodiversity protection and management through an annually updated register of their environmental assets.

4. UK Biodiversity Action Plan and Wales Biodiversity Strategy

The Biodiversity Action Plan (BAP) process in itself is not a delivery mechanism, rather an overarching framework. As such, it relies on other mechanisms to secure delivery of actions to benefit the priority species and habitats identified through the process. Whilst there have been some significant gains for some threatened species and habitats with small, localised populations/areas (often due to concentrated effort by organizations such as Butterfly Conservation, Plantlife, RSPB Cymru and Wildlife Trusts with Government support), most of the more widespread BAP-listed biodiversity continue to decline.

After a review of the UKBAP was concluded in 2007, Wales (driven largely by the Wales Biodiversity Partnership; WBP) has made significant progress in shaking off the inadequacies of the past UK process and moving forward. Though still developing there is now a strong Biodiversity Framework in place that should operate effectively to organise and deliver meaningful gains in biodiversity conservation into the future - particularly through landscape-scale activity and partnership working.

However, being a framework it is still hostage to fortune and the limits facing delivery of biodiversity and ecosystem restoration through the mechanisms it relies on. This is where the barriers lie and not with the framework as such.

We urge the Committee to recommend:

- The Welsh Assembly mobilises sufficient resources through the WBP to enable the biodiversity framework to operate effectively and deliver future biodiversity targets

5. Biodiversity and Climate Change – two sides of the same coin.

Is the current approach to dealing with climate change mitigation and adaptation in Wales sufficiently integrated with policies for biodiversity? (Question 3)

When comparing the policy area of biodiversity to the area of climate change, many significant differences become apparent. The climate debate has advanced at a far greater pace and has a far stronger governmental commitment to setting up measurable policy targets and indicators.

The development of a climate change strategy and delivery plan for Wales has been led since 2007 by the Welsh Climate Change Commission (the Commission), which was established under the provisions of the One Wales policy agreement. The Commission is actively directing resources and action towards goals to reduce emissions and support renewable energy development. When combined with the evidence and knowledge transfer mechanisms utilised by International Panel on Climate Change (IPCC) and UK

Climate Impacts Programme (UKCIP), for example, there is an appropriate sense of urgency, direction and accountability which underpin and ensure resources are allocated to support emissions reductions.

In the field of biodiversity, there has been a general lack of clear targets, indicators and accountability measures, leading to unclear governance, uncoordinated implementation and critical lack of resources.

Policy on climate change had been separated in 2006/07 by the Assembly Government from other elements in the Environment Strategy, with a distinct set of officials and bodies given responsibility for its development. There is more than anecdotal evidence of subsequent 'silo' policy thinking among the relevant Assembly Government departments. As with the Government, however, 'green' NGOs too were focussed heavily on the climate change challenge, and the media focus was towards the implications of climate change for humans.

Biodiversity and the natural environment have to date been very little discussed in meetings of the Commission and not featured strongly in thinking through and developing a climate change mitigation strategy. Biodiversity has only featured as an incidental beneficiary of policies driven from a human welfare perspective.

Notwithstanding, implementation in Wales of the UK Climate Change Act, especially the powers conferred on Welsh Ministers under Part IV Impact of and Adaptation to Climate Change, should in time strengthen the biodiversity policy linkage to climate change. Central to this will be an Adaptation Framework, within which there will be a Sector Adaptation Plan (SAP) for the natural environment and land use which is yet to be developed. The Commission has previously received the report of its natural environment working group – December 2008 – entitled Integrating Adaptation into Management of the Natural Environment.

For understandable reasons, the Assembly Government over the past three years at least has given a clear policy priority to climate change. However, there is no policy or practical reason why this focus could not have been combined with addressing the targets regarding biodiversity loss.

Biodiversity loss and climate change are two sides of the same coin, there is no either/or and the focus on climate change should not be held up as a reason for the failure to get on with conserving biodiversity.

We urge the Committee to recommend:

- Through the Climate Change Commission, the Assembly Government must development, adequately resource and implement activity to improve our delivery of nature conservation at species, site and ecosystem levels as part of our approach to adaptation and interwoven with strategies to mitigate climate change (i.e. biodiversity restoration as an engineering tool).
- The Welsh Assembly's policies along with the delivery of its functions must ensure their adaptation does not restrict the ability of the natural environment to adapt, and where possible, seek to support its adaptation. In practical terms this

will mean avoiding damage to the natural environment (e.g. habitat loss, disturbance etc), removing existing pressures (e.g. pollution, unsustainable land management) and providing additional habitat.

- Protecting and enhancing biodiversity priorities must be made central to Sectoral Adaptation Plans developed by the Climate Change Commission ensuring the Welsh Assembly's policies build ecosystem-based adaptation solutions into priority adaptation responses by all sectors.

6. What works well

What examples of good practice are there elsewhere in the UK and internationally that Wales can learn from? (Question 4)

Farming and Nature Conservation - Lake Vyrnwy, Powys

Lake Vyrnwy, a working farm, nature reserve and educational facility managed by RSPB Cymru in mid Wales maintains diverse characteristics of heather moorland, woodland, grassland, blanket bog and the distinctive wildlife that thrive in these habitats. Its natural systems and species provide essential ecosystem services such as food production, carbon sequestration and water storage whilst maintaining a rich level of biodiversity. RSPB Cymru and partners have showcased through a number of initiatives, including an EU LIFE-funded blanket bog restoration project, that it is possible to deliver biodiversity objectives, such as conserving and restoring breeding bird populations, alongside these essential ecosystem services. As a focal point for access to the natural environment, the area also offers physical and mental health benefits to nearby communities and visitors from across the UK, whilst simultaneously being a viable farm business, nature reserve, tourist destination, school resource, top quality producer of organic mountain lamb and Welsh beef and finally, a source of clean water for thousands of people.

Farming and Nature Conservation – Hope Farm, Cambridgeshire

In 1999, the RSPB purchased Hope Farm, a 181-hectare (450-acre) arable farm in Cambridgeshire. The farm is run on a commercial basis and is contract farmed by a neighbouring farmer. Farmland bird targeted Entry Level Scheme options have been deployed well at the RSPB's Hope Farm. As a result, farmland bird numbers have risen there by 177% in 10 years and yields have also increased.

Landscape-scale Conservation in the South Essex Marshes

In South Essex, on the north bank of the river Thames, the RSPB has developed a 10 square kilometre wetland nature reserve, created from a mix of grazing marsh, arable farmland,

Brownfield and restored landfill sites. This complex sits in the wider vision for the RSPB's Thames Estuary Futurescapes¹² Programme.

Acquiring and restoring these sites has involved working with regeneration agencies, local authorities, landowners and business and extensive consultations with local communities and statutory agencies. Working in partnership to contribute to the wider delivery of the Thames Estuary 2100 Strategy, this landscape scale work typifies the creative, innovative and inclusive approach required to restore biodiversity and contribute to climate change adaptation.

Sustainable Catchment Management Programme - an RSPB and United Utilities

The Sustainable Catchment Management Programme (SCaMP) is based in northern England, covers over 50,000 acres and is open to more than 30 large tenanted farms, as well as other grazing licenses and lets. SCaMP has showcased that through sustainable land management farmers can maintain the same level of income whilst reducing the detrimental effect they have on the environment around them.

This project has made a real difference in an area that is vitally important for wildlife and is unique in that its outcome has had implications on policies such as the Water Framework Directive and carbon management and has subsequently influenced national legislation on how catchments and uplands are farmed. Monitoring has been a key element of the programme ensuring that our focus on wildlife, water quality and vegetation has produced results that enable us to showcase that sustainable and sensitive land management can have beneficial impacts on the environment, the economy and the surrounding populations mental and physical health.

Nature After Minerals

Nature After Minerals (NAM) is a partnership programme between the minerals industry, RSPB and Natural England. It aims to realise the major potential for UK Biodiversity Action Plan delivery via mineral site restoration and works with all relevant stakeholders including operating companies, planning authorities and local communities. Tailored advice provided by the programme has contributed directly to the restoration of over 1,800 hectares of BAP priority habitats¹³.

Habitat Opportunity Mapping

¹² Futurescapes is the RSPB's contribution to landscape-scale conservation, a growing movement among UK conservation groups to provide more rich habitats for wildlife and diverse, green spaces for people to enjoy in our countryside, not only in protected areas but far beyond. See <http://www.rspb.org.uk/futurescapes>

¹³ See <http://www.afterminerals.com/>

Habitat opportunity mapping can act as a positive planning tool. RSPB Cymru with Denbighshire County Council have recently developed the Clocaenog Statement of Environmental Masterplanning Principles (SEMP)¹⁴. The SEMP reconciles the pro-development stance of the Clocaenog Strategic Search Area (SSA) with the additional requirement in TAN8¹⁵ to manage land for wildlife (and community benefit). The SEMP identifies broad ecological character zones (in conformity with local biodiversity action plans) within the Clocaenog SSA and provides habitat management schedules for developers. The map-based tool helps decision-makers to make choices which put developments in the right places and coordinates appropriate land management.

7. Building the Architecture of a Revitalised Approach to Biodiversity Conservation

What are the implications of emerging international targets for 2020 and beyond? (Question 5)

In building up to, the CBD Conference in Nagoya in November the EU has agreed a new target between member states to halt the loss of biodiversity and the degradation of ecosystem services, by 2020¹⁶. The inclusion of ecosystem services is significant because it introduces an economic dimension: a reason to invest in the natural environment and a perceptible return on that investment.

RSPB Cymru is supportive of the Welsh Assembly in developing a Natural Environment Framework (NEF) during 2010, and is committed to supporting this process through advice and participation as appropriate. We believe the NEF must build upon the mechanisms that currently exist to bring biodiversity conservation and restoration more closely into the mainstream. It must ensure that, rather than being forgotten in the wake of the climate change crisis, biodiversity is recognised as part of the same problem as well as providing many of the solutions.

Biodiversity is a public good and directing resources to its restoration and enhancement provides, in most cases, substantial return on investment. Public money must continue to be used to support delivery of this public good. As well as looking for efficiencies and value for money, now is a crucial time to look for new sources of funding for the natural environment.

Government must redistribute the costs of conservation by doing much more to make polluters pay for the damage they do to the environment or by making people who benefit from the natural world, pay for some of the services they currently receive for free. There are many potential means of doing this including development credits and biodiversity offsets, but there are also limits and the government still has a critical role to play making existing resources work in better harmony.

¹⁴ Byrne J. Elliott D. Lindley P. Thorpe R. Webb M. 2010. Clocaenog Statement of Masterplanning Principles. RSPB Cymru. Cardiff.

¹⁵ Technical Advice Note 8 – Planning and Renewable Energy

¹⁶ See http://ec.europa.eu/environment/nature/biodiversity/policy/index_en.htm

We urge the Committee to recommend the Welsh Assembly and Local Government fully investigate the options available to substantially increase its resource allocation to biodiversity conservation and ecosystem restoration. For example:

- Wind farm developers have to pay “option fees” each year for every turbine they install; where installation is on publicly owned land, for example the Assembly Woodland Estate, we contend the money raised in this way for the public purse should be ring fenced for conservation and restoration projects, that engage people and deliver a range of benefits to society. This could represent an income stream in the order of tens of millions of pounds each year.
- Primary Health Care budget - The estimated overall cost of physical inactivity to the Welsh economy is calculated to be £650m p.a.¹⁷ (Wales has among the highest rates of overweight or obese children in Europe). A 10% increase in physical activity and better diet (facilitated in part by better quality and accessible natural environments) could save 300 deaths a year, saving the Welsh health service £25 m pa¹⁸. Similarly the cost of mental wellbeing to the Welsh economy is estimated at £7.2 billion pa¹⁹. There is a large body of evidence that illustrates the importance of continued environmental experience and access to nature to promote mental wellbeing. There are potentially considerable cost savings to be gained from these areas of the health budget through investment in the natural environment, which in turn could be directed towards improving the extent and quality of the Welsh ecological network.

¹⁷ http://www.cardiffhealthalliance.org/attributes/HWB/activity/Cardiff_PA+Health_08-11.pdf

¹⁸ <http://www.sustrans.org.uk/what-we-do/active-travel/139/physical-activity-and-health-facts-and-figures>

¹⁹

[http://www.publicmentalhealth.org/Documents/749/Promoting%20Mental%20Health%20Report%20\(English\).pdf](http://www.publicmentalhealth.org/Documents/749/Promoting%20Mental%20Health%20Report%20(English).pdf)

Annex 1:

Drivers of Biodiversity Loss

For the purposes of assessing progress toward the 2010 targets, the Convention on Biological Diversity defines biodiversity loss to be:

...the long-term or permanent qualitative or quantitative reduction in components of biodiversity and their potential to provide goods and services, to be measured at global, regional and national levels.

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Under this definition, biodiversity can be lost either if the diversity *per se* is reduced (such as through the extinction of some species) or if the potential of the components of diversity to provide a particular service is diminished (decline of soil invertebrates). Humans contribute to biodiversity loss in a number of ways though most are essentially driven by economic activity and growing per capita consumption. Our production and consumption patterns are responsible for pollution, natural resource depletion, changing land use and intensive production systems. Being unable to adequately value nature or many of the services it affords us within our current market systems of exchange inevitably lead to nature's under-valuation and overexploitation.

Many of the direct drivers of biodiversity loss listed below are strongly correlated with economic growth.

- Habitat change. This is currently regarded as the biggest proximate cause of biodiversity loss most notably involving conversion to agriculture or intensification of extensive agricultural systems.
- Poorly conceived government policies. Government policy at EU, UK (England and Wales) and Wales level frequently compound the problem through perverse incentives generated by poor policy/programme design and subsidies.
- Climate Change. There is ample evidence of the impact climate change is already having on UK flora and fauna. It will increasingly become one of the most powerful factors shaping Welsh, UK and global biodiversity.
- Abandonment of traditional land management practices.
- Overexploitation. Particularly damaging for open access goods, such as fisheries and commons.
- Poor Governance. Illegal activities and failure to enforce compliance to legislative and fiscal mechanisms.
- Nutrient loading. We add more nitrogen to ecosystems than all other natural processes combined resulting in "nutrient-loading and the creation of "dead zones" in freshwater and marine systems.
- Invasive Alien Species. Currently regarded (by the CBD) as second only to habitat change as the major proximate cause.

Annex 2:

Examples of Biodiversity Decline in Wales

Curlew, *Numenius arquata*

Continued population decline: -81% (1993 – 2006). Near-threatened globally.

Curlew are still relatively widespread in the uplands of Wales but just over 1,000 pairs remain. They breed in tussocky vegetation e.g. on grass-dominated moorland, and in low-intensity pastures, and feed on damp pastures and in wetter habitats such as blanket bog and wet flushes.

Lapwing, *Vanellus vanellus*

Continued decline: -77% too scarce to be considered a widespread species in Wales as they once were. Now the population is estimated to be fewer than 700 pairs.

They are closely associated with damp grassland habitats in both the uplands and lowlands throughout Wales, and with spring-sown arable. A short open sward structure, and varied ground topography (e.g. hoof-prints, cultivated soil) is key, as is the availability of wet features which provide invertebrate food for the chicks.

Golden plover, *Pluvialis apricaria*

Continued severe decline: -84% (1978 – 2007).

Golden plover prefer broad, open, gently sloping, exposed areas (e.g. hill and ridge tops) with short vegetation and wet areas away from conifer plantations. Adults and chicks rely on invertebrate food throughout the breeding season, particularly the larvae of Tipulids (leatherjackets). Adults also use short-grazed pastures containing high densities of soil invertebrates e.g. Tipulid larvae and earthworms.

Corn bunting, *Emberiza calandra*

Declined severely in both population and range in recent years and now not a regular breeding species in Wales.

Now restricted to a small area of Flintshire corn buntings have a tenuous presence in Wales. They are very much associated with open landscapes with extensive areas of arable (cereal), low input grassland, or a mixture of both. They nest on, or close to, the ground in the crop, and feed on seeds and grain, although invertebrates are particularly important in the breeding season as food for chicks.

Yellowhammer, *Emberiza citrinella*

Continued decline: -54%

A seed-eating species that feeds its chicks on insects and nests in hedgerows, particularly those associated with ditches or wide grass margins. Management to

encourage seed sources throughout the year (especially in the winter), and insect food sources for the chicks in the spring are critical for this species.

High brown fritillary, *Argynnis adippe*

Continued severe decline more than –90% in last 25 years

Bracken-dominated habitats or grass/Bracken mosaics on south facing slopes or level ground below 300 m (used throughout its range).

Pearl-bordered fritillary, *Boloria euphrosyne*

Continued severe decline more than –90% in last 25 years

Well-drained habitats on lower hill land and commons with mosaics of bracken, grass, and often patchy scrub. It also uses woodland rides and clearings, such as recently coppiced or clear-felled woodland a declining habitat in Wales.

Shrill carder bee, *Bombus sylvarum*

Continued declines, exact extent unknown but highly restricted in Wales (South).

The shrill carder bee is restricted to just three core areas in Wales - the Gwent Levels, the Castlemartin peninsula in Pembrokeshire, and Kenfig Burrows–Margam Moors region of Bridgend & Neath Port Talbot. It requires large areas of flower-rich grasslands, with extended flowering periods from late April to September to maintain nests throughout the summer and provide early forage for emerging queens and late forage for overwintering queens.

Small-flowered catchfly, *Silene gallica*

Endangered (facing a very high risk of extinction in the wild; 2008b) in Wales having been lost from 86% of recently known sites. Decline from 74 sites to 10 sites.

Relies on arable land and other disturbed ground such as soft sea cliffs on light, sandy acidic soils.

Spreading bellflower, *Campanula patula*

Critically endangered in Wales (Dines 2008b) it has been lost from all but four of its recently known sites, –87% decline. Decline from 31 sites to 4 sites (Dines 2008a).

The species range is centred on the Welsh Marches where it reaches its northern extent around the Montgomery–South Shropshire border, in the Corndon Hills. The known population here, though, is extremely small and erratic with a deteriorating habitat through lack of appropriate hedgerow maintenance.

Direct and Proximate causes for declines in these priority biodiversity species

1. Farmland wildlife continues to decline because their requirements are not widely integrated or consistent with modern food production methods.
 - a. The use of herbicides and fertilisers (the practice of using broad spectrum herbicides on a widespread basis rather than targeting injurious crop weeds – small-flowered catchfly, yellowhammer)
 - b. The use of pesticides reduces invertebrate populations and therefore impacts on other species (corn bunting)
 - c. Widespread use of highly productive (and therefore competitive) crop varieties as well as grass pastures and changes in the timing of management operations (small-flowered catchfly, corn bunting, yellowhammer, lapwing, curlew)
 - d. Loss of unimproved, including damp, pastures adjacent to seed sources (corn bunting)
 - e. Loss of field margins (small-flowered catchfly, yellowhammer, shrill carder bee)
2. Dependant on livestock grazing to create suitable habitat conditions which do not fit with the management practices the majority of modern farms need to employ to remain a viable business.
 - a. Bracken habitats are no longer managed through grazing (pearl bordered fritillary, high-brown fritillary).
 - b. In some cases stock reductions in response to market demands and changes to land management (for example heather cutting and burning) practices has led to changes in the vegetation composition of habitats, particularly in the uplands (golden plover, curlew).
3. Require wet/damp grasslands that have traditionally been considered unproductive in the context of food production and therefore 'improved' – perception that maintaining these types of grassland habitats as unimproved as 'poor' farming practice (lapwing, curlew).
4. Agri-environment schemes have not, in the past, provided the right conditions in the right places and at the appropriate scale to halt declines in farmland wildlife (all species).
5. Fragmented populations due to habitat loss restricts dispersal (population movement, recolonisation) and with isolated pairs (birds), individual plants, small populations (butterflies, bumblebees, plants) making the potential impact of predation, habitat loss and severe weather events more serious.
6. Restoration of ancient hedge-banks, using traditional layering techniques and scrub-clearance along the edge of fields is no longer common practice (spreading bellflower).

7. Undervalue of wildlife and natural ecosystems leads to development of important sites for wildlife (e.g. coastal development – small-flowered catchfly, industrial/urban development - lapwing)
8. Woodland practices such as coppicing and thinning are in decline, and many areas have been planted with conifers. Woodland rides and clearings have become increasingly shady and overgrown.
 - a. Decline in market for products derived from coppicing and thinning woodlands (pearl-bordered fritillary, high-brown fritillary)
 - b. Afforestation with introduced species (golden plover, pearl-bordered fritillary, high-brown fritillary)
9. Decreases in available insect foraging resources, particularly those provided by flower rich grasslands and hay meadows (shrill carder bee).

Annex 3:**Protected Areas**

Current delivery mechanisms, that need to be improved and built upon, include:

Sites of Special Scientific Interest (SSSIs), National Nature Reserves (NNRs), Special Areas of Conservation (SACs), Special Protection Areas (SPAs), Ramsar Sites, Marine Protected Areas (MPAs), Local Nature Reserves (LNRs), Areas of Outstanding Natural Beauty (AONBs) and National Parks (Snowdonia, Pembrokeshire, Brecon Beacons), Biosphere Reserves (UNESCO).

Wider Countryside and Sea

Current delivery mechanisms, that need to be improved and built upon, include:

The Wildlife and Countryside Act 1981; Conservation (Natural Habitats etc.) Regulations 1994; The Hedgerows Regulations (1997); Environmental Impact Assessment (EIA) for uncultivated land and semi-natural areas (2002), Heather and Grass Burning Regulations and Code (2007), Environmental Liability Directive, Birds Directive, Habitats Directive, Climate Change Act 2008

Annex 4:

Agri-environment Schemes

Past schemes have not helped halt the decline in farmland birds in Wales, with the broad and shallow schemes (e.g. Tir Mynydd, Tir Cynnal) not designed to deliver any sort of meaningful biodiversity gains, let alone benefit individual species and the higher level schemes (Tir Gofal) lacking objectivity and generally failing to consider species requirements. The only exception to this was the inclusion of a lapwing management option in Tir Gofal. However this was poorly targeted resulting in many lapwing breeding sites being located away from known populations and/or in unsuitable habitat. The ongoing decline in lapwing is testament to its failure to effect recovery. Although some Tir Gofal habitat prescriptions, either individually or in combination, have the potential to benefit some declining farmland bird species this has not been realised due to a lack of joined up or strategic approach in their delivery. The effect of Tir Gofal on biodiversity is currently being evaluated by the RSPB in partnership with other conservation NGOs (contracted by WAG). This is proving to be a challenge as no base line data was collected at the time when schemes were set up. As yet no results are available. As to the future, the RSPB has been fully engaged in the development of Wales' new agri-environment scheme (Glastir) with regards to prescriptions for key bird species. The scheme, which consists of an entry level and a higher tier has been designed to target effort, however, like the England situation, there will be free option choice for farmers joining the lower tier scheme which will limit the ability of the scheme to meet all bird requirements. The RSPB has contributed to a species map identifying areas where specific management is to be targeted in order to benefit key species. However, both the entry and higher levels remain voluntary, and as a consequence there is no certainty that the scheme will succeed in halting and reversing declines of farmland bird populations. Habitat management designed to benefit yellow wagtail, tree sparrow, yellowhammer and grey partridge has been included in the All Wales Element (entry level). Whilst specific species prescriptions for turtle dove, corn bunting, chough (Annex I), lapwing, curlew, golden plover (Annex I), black and red grouse, ring ouzel, twite and greenland white-fronted goose (Annex I) have been included in the Targeted Element (higher level). The success of these prescriptions is wholly dependent on uptake and of the scheme being adequately resourced.

Annex 6:

Recommendations for Monitoring Glastir

The Welsh Assembly has already acknowledged the need for such an approach and in the strategy for Farming, Food and the Countryside, states:

The introduction of Glastir provides the Welsh Assembly Government with a great opportunity to put in place a fully resourced monitoring programme that can draw on data collected at the beginning of this new scheme.

The exact details of such a monitoring programme will depend on the objectives that Glastir is to be measured against. However, as a minimum, we suggest that this monitoring should contain the following broad principles:

- It should be multi-taxa, including a the full range of species that are targeted by Glastir in both the regional packages of the All Wales Element and the Targeted Element (in addition, to increase comprehensiveness, it could also include those species or reasonably expected to benefit from the work undertaken)
- It should be conducted at a suitable spatial scale. This will vary between species, and multiple scales may be appropriate for single species. For example, it would be valuable for the Welsh Assembly to be able to demonstrate if lapwing are more likely to use fields under Glastir management (field-scale); or whether they have increased more on farms that are in Glastir (farm-scale); or whether they have increased more in areas where Glastir uptake has been greater (landscape-scale)
- It should be conducted at a suitable temporal scale. Changes in populations may only be detectable after certain intervals, or may only occur after uptake of Glastir (or specific management options) has reached a certain level.
- It should be purposeful, with expected outcomes (direction of changes, and, if possible, the magnitude of such changes) of Glastir management to be defined before monitoring takes place.

The Welsh Assembly Government must allocate sufficient resources to developing and implementing a robust monitoring programme for Glastir, a programme that not only meets that required by European Regulation but one that goes beyond to demonstrate best practice to the rest of Europe. Such monitoring is vital in measuring the success of AES, and will aid the Welsh Assembly in demonstrating that success. Without a strong monitoring programme, the potential of the scheme cannot be realised and the value of Glastir will be reduced, as benefits will not be able to be demonstrated.