

# Biodiversity Forum

## Statement on biodiversity and climate

### 1. Introduction

Biodiversity is fundamental to the economy and society and should be at the core of strategic planning and decision making both in Government and at a sectoral level. Limiting climate change and adapting to its impacts are priority challenges identified by Government<sup>1</sup>.

The Biodiversity Forum identified the effects of climate change as a priority area for further investigation and highlighted the need to prepare and implement responses to protect Ireland's biodiversity in their submission<sup>2</sup> to the second National Biodiversity Plan. This also included recognition of the role that biodiversity has to play in mitigating the effects of climate change.

### 2. Context for the research

The impacts of climate change on our biodiversity are already being felt and will gather pace over the coming century. Actions undertaken will take a considerable time to produce benefits and need to be initiated at an early stage. The changing relationship between biodiversity and our climate will have profound implications for our economic and social well-being, as well as on the commitments to halt biodiversity loss entered into by Government. These commitments reflect those of the European Commission<sup>3</sup> and emphasise the close inter-relationship between climate change and biodiversity and hence the need for an integrated approach to policy development. EU and Member States shall therefore '*explore the possibilities to improve policies and develop measures which address biodiversity loss and climate change in an integrated manner to fully exploit co-benefits and avoid ecosystem feedbacks that accelerate global warming.*' Arising from such ecosystem-based approaches are those that maintain natural resources and promote conservation and sustainable use in an equitable way. Such measures would contribute to the preservation and restoration of natural ecosystems and mitigate climate change either by conserving or enhancing carbon stocks and reducing emissions caused by ecosystem degradation or loss. They would also provide cost-effective protection against some of the impacts of climate change. A conference entitled 'Ireland's Biodiversity in a Changing Climate - Helping Nature to Adapt and Survive' was hosted by the Biodiversity Forum and the Northern Ireland Biodiversity Group in November 2008 with the principal aim of informing Government departments and decision-makers of the actions that need to be taken to support Ireland's biodiversity during this period of rapid climate change. The conference was informed by a briefing paper commissioned by Comhar SDC in relation to the effects of climate change on biodiversity in Ireland.

### 3. Scope of the review

The aim of the briefing paper was to provide a review of available knowledge and the evidence base which could inform policy on climate change and biodiversity. The specific objectives were to:

- Provide an overview of the coherence, connectivity and resilience of National Parks, Nature Reserves, Natura 2000 sites and National Heritage Areas in order to maintain favourable conservation status of species and habitats in the face of the challenges presented by climate change.
- Make an initial assessment of the habitats and species in Ireland most at risk from climate change.
- Provide an overview of existing work which has been carried out on the potential impacts of climate change on biodiversity, including key habitats and species.

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<sup>1</sup> National Climate Change Strategy 2007 -2012 DOEHLG (2007)

<sup>2</sup> Conserving Ireland's Biodiversity – Biodiversity Forum Briefing Paper. Comhar SDC (2008)

<sup>3</sup> Adapting to climate change: Towards a European Framework for action. European Commission White Paper, 2009.

- Assess synergies and gaps in the development of policies for climate change and biodiversity.
- Review climate change adaptation and mitigation policies and report on the potential positive and negative impacts on biodiversity.
- Identify gaps and make recommendations on how climate change considerations can be integrated into policy making in key sectors (including agriculture, forestry, inland waters, marine).
- Consider any emerging evidence of increased risk for the establishment of invasive alien species as a result of climate change.

#### **4. Biodiversity Forum conclusions on the review**

The review paper provides an overview of projected climate change for Ireland and some of the uncertainty associated with these predictions. Uncertainties remain over the magnitude of climate change impacts and there are other potential interactions which acting in synergy may be more severe than the projected changes in climate alone. What is certain is that Ireland's biodiversity both terrestrial and aquatic is changing as a result of climate change impacts and will continue to do so. The review paper outlines the key drivers for change and highlights that in the short term, other drivers of ecological change are likely to have a greater impact on biodiversity than climate change alone, which clearly emphasises the need for implementation of current policy and plans and for the enforcement of legislation.

The review contains only a preliminary assessment of habitats and species vulnerable to climate change and emphasises the need for a more comprehensive programme of research and monitoring. However, it makes clear that the prospects for priority species and habitats attaining favourable conservation status are not encouraging if current trends continue. Further changes associated with increasing numbers of invasive species are also likely to lead to greater ecological and economic impacts.

A series of recommendations have been proposed for action by both Governments in Ireland. Government's main role in this regard is to set the policy framework to guide other key players. The review therefore emphasises the need for integrated policy. It emphasises that a strong link should be made to human wellbeing and the sustainable use of natural resources in the wider landscape, as a basis for maintaining and increasing the resilience and connectivity which will help sustain biodiversity.

Although the review identifies that further analyses are needed, it also stresses that we know enough to realise that immediate and urgent action is required. To postpone determined action would be to the detriment of biodiversity and hence the future economic, social and environmental welfare of Ireland. This requires a commitment to a strong policy steer which delivers a committed buy-in from a wide range of key sectors e.g. agriculture, finance, transport, spatial planning, fisheries, forestry, tourism and development policy in order to increase and maintain ecosystem resilience.

#### **5. Biodiversity Forum recommendations to Government**

In recommending a wide range of actions the Biodiversity Forum is urging the Government not only to help biodiversity adjust and adapt to the impacts of climate change but to integrate biodiversity and climate change policy and incorporate ecosystem services into climate change adaptation and mitigation measures for the benefit of the economy and society. These recommendations will strengthen the knowledge base on climate change and biodiversity and integrate increased research effort with long-term, policy linked monitoring programmes. The recommendations need to be addressed with urgency as many of the actions carry long lead-in times. The Biodiversity Forum through its own work plan will seek to support the implementation of these recommendations particularly in areas such as indicators, development of renewable energy and green infrastructure.

#### Policy:

- Biodiversity and climate change policies should be integrated through the National Adaptation Plan and the cross-sectoral actions identified during 2009.
- The revision of the National Biodiversity Plan which was due for completion in 2008, should incorporate measures to address the impact of climate change on Irish biodiversity and be harmonised with the National Adaptation Plan and published by the end of 2009.
- Adaptation policies should be harmonised on an all-island basis and the appropriate Departments North and South should liaise to achieve this.
- Existing biodiversity policy needs to be urgently implemented in order to foster resilience among existing populations of species in healthy habitats.

#### Research:

- Further development of the evidence base to support policy development is required. This should be achieved through targeted research which combines modelling with experimentation and long-term monitoring of vulnerable habitats and species.
- A climate change vulnerability assessment for a broad variety of natural habitats and species should be undertaken.
- Further research is required into the likely impacts of climate change on the biology of native species. A particular concern and focus of research also needs to be on the response of habitats and species to the spread of invasive species (including pests and diseases) that are impacting on biodiversity in Ireland as a result of climate change.
- Further research is required on the value of ecosystem services such as the buffering role of peatlands and inland wetlands during heavy rainfall events; the protective role of coastal wetlands; and the role of peatlands, wetlands and woodlands as carbon sinks in order to emphasise their importance to policy makers.
- Further research is required on the impact of renewable energy crops on biodiversity and nutrient bio-remediation.
- These research priorities should be taken up by the National Platform on Biodiversity Research and incorporated into Environmental Protection Agency (EPA) funding calls under the STRIVE 2007-2013 programme.

#### Monitoring:

- Identification of species that can act as indicators of climate change and those most relevant to Irish biodiversity is required. An indicator species monitoring network needs to be established. This should be led by the National Parks and Wildlife Service (NPWS) in association with the EPA and the National Biodiversity Data Centre (NBDC).
- A structured approach is needed for the collection, collation, management, access and dissemination of biodiversity data. This should be led by NPWS in association with the re-established National Biodiversity Research Platform and the NBDC.
- Increased levels of monitoring and vigilance are required in relation to plant and animal health and the presence and status of invasive species. This should be led by the Department of Agriculture, Fisheries and Food (DAFF) and NPWS and the appropriate bodies in Northern Ireland.
- An ongoing marine climate change monitoring programme is required to monitor changes in the marine environment and associated food webs. This should be led by the DAFF and the Department of the Environment, Heritage and Local Government (DOEHLG) in association with the EPA, the Marine Institute and appropriate bodies in Northern Ireland.
- Climate change impacts should be fully integrated into invasive species policy, plans and monitoring programmes. This should be led by NPWS in partnership with the Northern Ireland Environment Agency.

Sites and Species: The following areas will need to be led by NPWS except where stated.

- Further measures to protect important sites for nature conservation and individual threatened species are required, and will need to be strengthened on an ongoing basis if new pressures arising from the impacts of climate change are to be adequately addressed. Where appropriate, mitigation measures for threatened species and habitats will need to be put in place, encompassing habitat restoration, species recovery measures, translocations and reintroductions, as well as complementary *ex situ* conservation measures.
- Land-use policy needs to maintain and improve the designated site network in order to facilitate the delivery of a more permeable and resilient landscape. This should be led by the DOEHLG in close association with regional and local authorities.
- Existing sites should be enlarged to accommodate the climatic and habitat variability that would support indigenous species. In any anticipatory planning ahead of climate change, prospective corridors to facilitate the migration of biodiversity between sites need to be identified, designated and safeguarded.
- New sites/ habitats should be designated and created to replace those lost and to buffer habitats from encroaching and negative edge effects such as development or intensive land use.
- Climate change considerations should be integrated urgently into management plans for the Natura 2000 network.

Planning:

- The Strategic Environmental Assessment Directive should be fully implemented and guidelines produced to ensure incorporation of biodiversity and climate considerations into all sectoral policies.
- Guidelines for regional and local planning are urgently required and should incorporate biodiversity and climate change considerations.

Renewable Energy:

- A Strategic Environmental Assessment (SEA) of renewable energy policy should be undertaken.
- Sustainability Impact Assessments (SIAs) should be carried out to ensure impacts on biodiversity are taken into account in the development of renewable energy resources.
- The development of biofuel crops should not be encouraged unless it can be demonstrated that they will deliver reductions in greenhouse gas emissions compared to fossil fuels and will not have a negative social or biodiversity impact.

Governance and co-ordination:

- While recognising the current fiscal constraints it is vitally important that the governance structure for biodiversity be maintained, strengthened and extended where possible. Co-ordination of strategic planning within and between the various bodies responsible for addressing climate change risks and planning for adaptation needs to be prioritised.
- Government should ensure that the Regulatory Impact Assessment process provides for a rigorous assessment of biodiversity impacts.
- Strategic linkages with research fora should be developed to improve baseline data on the distribution, status and threats for species and habitats and to identify best practice elsewhere.
- There is a need to build capacity within competent authorities both in terms of staff resources and expertise if a coherent cross-sectoral response is to be delivered.