



Comhar  
Sustainable Development Council

# Conserving Ireland's Biodiversity

## Biodiversity Forum Briefing Paper

**A submission on the Second National Biodiversity Plan**

Collated by David Hickie, MSc.  
For the Biodiversity Forum  
April 2008

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# Executive summary

This paper represents the submission by the Biodiversity Forum as part of a national consultation being undertaken for the preparation of a new National Biodiversity Plan (NBP). The paper considers many aspects of present-day concerns about declining biodiversity in Ireland and includes experiences gained from the implementation of the first National Biodiversity Plan published in 2002. The Biodiversity Forum has provided on-going advice on the implementation of the first NBP, recognising that the strengths of that plan need to be built upon and its weaknesses addressed in the preparation of Ireland's new NBP.

The NBP was initiated in response to the global agreement of a Convention on Biological Diversity (CBD) adopted by the international community following the 1992 Rio Earth Summit. In 2002, the CBD parties adopted a global target to "reduce the rate of loss of biodiversity by 2010". This has been supplemented by an even more ambitious EU target to halt the loss of biodiversity by 2010 within the European Union.

The first NBP was a five-year plan (from 2002 to 2006) comprised of 91 actions working towards the goal of conserving biodiversity in Ireland. In 2004 and 2005, Comhar and the National Parks and Wildlife Service (NPWS) respectively, published reviews on the progress and implementation of the NBP. The overall messages from these reviews were that:

- Not all of the actions were implemented effectively;
- The conservation of biodiversity will need to become a more central part of policy and practice at all levels of government in Ireland; and
- Advancement in the conservation of biodiversity will require more structured quantitative and measurable targets if the goals of the NBP are to be achieved.

The NBP has the potential to influence and channel a powerful cultural shift towards protecting biodiversity in Ireland. It will be an important tool for promoting a concern for biodiversity in society and is essential in meeting EU targets. For this reason, the Biodiversity Forum advocates the construction of a vision that highlights the significance of biodiversity as fundamental to sustaining economic and social development. This paper examines the key elements that will aid in the development of a second NBP, to construct and meet targets in the conservation of biodiversity at a legislative and practical level. The main issues and recommendations from the paper are presented in this summary.

## **The knowledge base for biodiversity conservation needs to be built up**

A major contributor to the disappointing impact and implementation of the actions in the first NBP was a lack of well-defined, measurable targets set out within a manageable time frame. S.M.A.R.T (specific, measurable, achievable, realistic, time bound) targets ensure that stakeholders involved in the execution of targets are left with no confusion in relation to the precise actions to be carried out, timescales and priorities. However, in order to devise a set of effective targets, detailed baseline knowledge on the current and evolving state of biodiversity in Ireland is essential. Information on the current status of protected species and biodiversity within protected areas needs to be compiled and readily available. Databases, in conjunction with guidelines concerning data gathering, collation, administration, access and publication are necessary to provide decision-makers with the information they need, when they need it. Ongoing studies would highlight priority areas and feed decision makers with essential information.

### **Biodiversity should be 'core' or 'mainstream' in decision-making at government level**

Concern for biodiversity issues should not be relegated to particular sections of the government, but should be fully incorporated as a fundamental matter pertaining to all relevant cabinets. Cooperation between various governmental departments is vital in order to make further progress with conservation and ensure a wide-reaching influence within all sectors of society. There is a necessity for cross-cutting measures that integrate biodiversity into all relevant national plans and programmes, spatial planning, financial schemes, and the tax system.

Involvement in biodiversity issues also requires broader integration into other sectors of society, such as planning, agriculture, forestry, transport, education, tourism and leisure, and horticulture. Key agents within these sectors, which have the power to significantly impact on the success of the NBP, should consider biodiversity a priority. Education and training are critical tools in creating awareness and encouraging action. Biodiversity should be included in relevant courses at all levels (primary, secondary and third level). In addition, those working in the marine, forestry, agriculture and horticulture sectors should be provided with training to ensure that biodiversity conservation can be integrated effectively into their operations. Partnerships with stakeholders are recognised by the Forum as a principal and proven means by which to drive change. By promoting and ensuring wider involvement, biodiversity issues are not left only to government or to a few to implement, but are built into pertinent activities by other parties that affect the NBP. Mobilisation of other organisations and individuals also has the added value of increased efficiency and cost savings. The NBP has the potential to provide a single policy framework for biodiversity conservation in Ireland around which all relevant sectors can rally.

### **Public awareness needs to be substantially increased**

In general, public appreciation of and knowledge of biodiversity is low. Harnessing local groups and ensuring local engagement with biodiversity issues would have a significant impact on conservation. There is a requirement for public education and awareness programmes that make biodiversity relevant to the public. This could be achieved by emphasising the economic costs of not conserving and highlighting the essential links between biodiversity and food production, nutrition and health.

### **Protected areas need to be expanded and their management and monitoring improved**

The designation and protection of National Heritage Areas (NHA) has been relegated in favour of designating EU Special Areas of Conservation (SAC) and Special Protection Areas (SPA). While focusing on EU recommendations and policies is imperative, Ireland must also give attention to expanding National Parks and formalising protection of National Heritage Areas. Furthermore, many conservation areas exist as isolated islands. Local authorities should protect strips of hedgerows, woodlands and waterways that act as corridors linking important biodiversity sites.

### **Biodiversity conservation outside protected areas needs to be substantially improved through better planning, partnerships, incentives and enforcement**

The lack of adequate information on biodiversity, both within and outside designated areas is of special concern in urban areas, where development has impinged on habitats and endangers the continued existence of some species. Official zoning does not always protect some biodiversity-rich areas. In many cases, the defence of such sites lies with local communities, private owners and concerned individuals. On occasion, local authorities have also removed zoning in areas that restrict development. Biodiversity needs to be at the forefront of local authority development plans and urban spatial planning. This could be accomplished through partnerships with a wide range of involved parties. Planning guidelines would provide a procedure for relevant parties to follow, simplifying the addition of an extra essential concern for stakeholders. Additional expertise and resources, such as local authority biodiversity officers and heritage officers, would further improve this situation. Other significant sectors and individuals, such as farmers and forestry officials need to be supported to allow them to make better-informed decisions on biodiversity conservation. This could be through imparting expertise on biodiversity and/or through tax relief for owners of sites of rich biodiversity, provided they are actively and effectively managed for biodiversity conservation.

### **The effects of climate change, invasive species and biosafety need to be investigated and responses prepared in order to protect biodiversity in the island of Ireland**

Climate change is having and will continue to have a huge bearing on biodiversity. Some potential threats anticipated include increasing intensity of storms and flooding, increasing sea water temperatures, changing temperature and rainfall patterns impacting on habitats and the species they contain, as well as species loss and changes in the timing and intensity of plant blooming and animal breeding patterns. The role of biodiversity in providing health benefits and mitigating climate change should be recognised, for example, certain habitats can provide water attenuation and buffering of coastal areas, etc. Studies conducted at the National Botanic Gardens suggest that many native plant species are at risk of extinction due to climate change. This would also have a knock-on effect on other organisms. In response, research programmes need to be introduced to identify the effects of climate change on biodiversity, ascertaining species most at risk and possible mitigation measures. These data can be utilised to effectively manage threats and inform and stimulate the development of action plans.

Increased international movement of people and materials between different countries and increased trade has encouraged the introduction of alien species, which can threaten native biodiversity. We need to employ mechanisms to identify and control actual and potential new pests, diseases and alien invasive species.

**Ireland should aim to take a lead role in reversing loss of biodiversity, taking encouragement from successful national social and economic initiatives**

Ireland has one of the highest per capita ecological footprints in the world and has a significant amount of work to do to protect biodiversity. Ireland's obligations in biodiversity conservation extend well beyond its national boundaries too. The NBP should recognise that biodiversity, wherever it occurs in the world, should not be put at risk as a result of Ireland's actions. Conservation represents a huge opportunity for Ireland to benefit from its green image. Sectors vital to the Irish economy, such as tourism, depend on protecting biodiversity, signalling a strong incentive for conservation. Ireland can set an example by taking a lead role in protecting biodiversity. We need to put in place support mechanisms to achieve such a position. Finance, expertise, knowledge, staff and partnerships with other sectors are required in order to have a significant impact.

One of the key messages arising from this paper is the need to enlist individuals and organisations from all sectors of society to advance economic development while promoting and maintaining biodiversity. The role of the Biodiversity Forum in the future will be to advise in the development of the second NBP and guiding and monitoring progress in its implementation. The Forum also has a responsibility for the advancement and cultivation of understanding of biodiversity issues among key stakeholders.



**Representatives of the Biodiversity Forum and Northern Ireland Biodiversity Group at joint meeting in Athlone, October 2007.**

*Back Row: Michael Harnett, Siobhan Egan, Cliona O'Brien, James Robinson, Liam Lysaght, Ian Simpson.  
Front Row: Noel Casserly, Monica Zavagli (Ramsar Convention), Bob Brown, Peter Wyse Jackson, Karin Dubsy.*

## i. The Biodiversity Forum

The Biodiversity Forum was established under the auspices of Comhar, the Sustainable Development Council, in April 2006. The Forum comprises stakeholders representing a wide spectrum of disciplines and expertise. The Forum includes members from relevant government departments, State agencies, local authorities, research organisations, farming groups, and non-government organizations. From Northern Ireland there is representation on the Forum from government officials and the Northern Ireland Biodiversity Group. Officials from the National Parks and Wildlife Service of the Department of the Environment, Heritage and Local Government sit on the Forum as observers.

In brief, the role of the Forum is to:

- Oversee independent monitoring of progress in the ongoing implementation of the Convention on Biological Diversity and the National Biodiversity Plan, including inputting into the second National Biodiversity Plan;
- Improve stakeholder awareness and understanding of biodiversity; and
- Promote North/South co-operation in the context of the island as a single bio-geographical entity.

The Forum is chaired by Dr. Peter Wyse Jackson, Director, National Botanic Gardens, and coordinated by Noel Casserly, Comhar. The current membership of the Forum is set out in Annex 1.

This briefing paper has been prepared following consultation and discussion with the members of the Biodiversity Forum, a review of Forum recommendations contained in the minutes of meetings since the Forum was established, as well as a reassessment of the recommendations contained in the earlier Report of the Comhar Working Group on Biodiversity<sup>1</sup>. It represents the input of the members of the Biodiversity Forum to the Second National Biodiversity Plan and has been endorsed by the Comhar Council membership.

At meetings of the Biodiversity Forum, some members have expressed concerns that existing institutional arrangements and structures are not best suited to the delivery of biodiversity policy. While specific recommendations are not considered appropriate to this briefing paper, the Forum believes that, in conjunction with the preparation and publication of a second National Biodiversity Plan, the Government should initiate a review of the assignment of functions and responsibilities between existing departments and agencies to eliminate duplication of effort and foster better coordination and coherence in implementing policy.

Further information about Comhar and the Biodiversity Forum, including Forum membership, can be found at [www.comharsdc.ie](http://www.comharsdc.ie).

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1 Recommendations on the Implementation and Review of the National Biodiversity Plan – Comhar, 2004  
[http://www.comharsdc.ie/\\_files/comhar0407.pdf](http://www.comharsdc.ie/_files/comhar0407.pdf)

## ii. Chairman's foreword

Despite its small size Ireland is rich in biodiversity, providing a home for the tens of thousands of species of plants, animals, fungi and microorganisms with whom we share this land. Not only is our biodiversity an important part of Ireland's natural and cultural heritage, it is also an often overlooked natural resource on which we rely for so many services, goods and benefits.

Biodiversity can be defined as the variety of life, and includes diversity at all levels - ecosystems, organisms and genes, as well as the multitude of complex interactions between species that is a feature of all living systems. Safeguarding Ireland's biodiversity is therefore a hugely important and urgent task. Equally, it is a complex and difficult undertaking. We are all aware that biodiversity is declining throughout the world, succumbing to a human-driven onslaught - uncontrolled loss of natural habitats, unsustainable development, climate change and massive other pressures on the natural world.

Ireland's adoption of the U.N. Convention on Biological Diversity (CBD) following the Rio Earth Conference in 1992 commits us to conserving biodiversity in Ireland. Ireland's response to the Convention was outlined in its first National Biodiversity Strategy published in 2002, which set out a series of Actions aimed at safeguarding our native biodiversity, to be implemented over the period 2002-2007. While significant progress and laudable efforts were made in implementing many of these Actions, it must be acknowledged nevertheless that biodiversity has continued to decline in Ireland. Such a decline is the result of many interacting pressures – including unprecedented economic development, the growth in Ireland's human population, urbanisation, changes in agriculture, forestry and land-managing practices, pollution, the spread of exotic and invasive organisms and diseases, loss of or damage to natural habitats and climate change.

In June 2001 the Heads of State of the European Union meeting in Gothenburg set a new challenge for Europe. They decided that '*biodiversity decline should be halted ... by 2010*'. The Convention subsequently incorporated a 2010 biodiversity target into its Strategic Plan the following year - '*to achieve by 2010 a significant reduction of the current rate of biodiversity loss at the global, regional and national level as a contribution to poverty alleviation and to the benefit of all life on earth.*' And this target was also adopted by the world's governments at the Earth Summit held in Johannesburg in 2002. Such is the context for Ireland's biodiversity conservation efforts.

The Biodiversity Forum was established by the Minister for the Environment, Heritage and Local Government in 2006 with the aim of reviewing the implementation of the existing National Biodiversity Plan and to provide guidance on how it could achieve its objectives most effectively. Established through Comhar, Sustainable Development Council, the Forum includes representatives drawn from diverse sectors of Irish society (both in the Republic and Northern Ireland) and includes a wide spectrum of expertise and experience in Ireland's biodiversity.

Following the announcement of plans for the 2nd National Biodiversity Plan in 2007, the Biodiversity Forum compiled this report, representing its submission for the new Plan. We trust that this advice will provide helpful guidance to those charged with its drafting. If the Plan is to be successful, it will need to guarantee that measures are urgently put in place to ensure that the international 2010 and other relevant biodiversity targets can be met. It must support the development of a thorough knowledge base on Ireland's biodiversity and its status. It will need to provide a policy framework to ensure that biodiversity conservation concerns are central to planning and policy implementation at all levels, by national and local government, the private sector and civil society. It will also need to ensure that biodiversity conservation is recognised as a common concern and responsibility for each individual in Ireland. In addition, it should build in strategic flexibility and a monitoring mechanism too in order to adapt and respond quickly to our evolving understanding of the drivers of biodiversity loss, such as climate change, that is predicted to threaten so many native species.

My thanks are due to all the members of the Biodiversity Forum who have contributed their ideas and expertise so freely towards the development of this submission. I wish also to express my appreciation to Noel Casserly and all of the staff of Comhar who have supported the Forum in its work so effectively. My thanks are due also to David Hickie who undertook the difficult task of compiling in a coherent way our biodiverse thoughts and ideas into this document. To all of them I am most grateful.

Despite Ireland's current efforts, thousands of species in Ireland are threatened, some even brought to the point of extinction, as biodiversity continues to decline. The preparation of a 2nd National Biodiversity Plan in 2008 presents an important new opportunity (and probably the last opportunity for many species) to ensure that Ireland has an effective, coherent and comprehensive future Plan for biodiversity conservation. Our wild species and natural environment are amongst Ireland's most important but fragile assets and natural resources. Let us work together to ensure that they are cherished and nurtured for the future.

**Dr Peter Wyse Jackson**  
*Chairman, Biodiversity Forum*

31st March, 2008

# 1. Vision statement and presentation

*A vision should be developed for the Plan that should inspire and provide the essential motivation for Ireland to conserve its biodiversity. There are compelling reasons for doing so, but these have to be fully and persuasively explained. The message that biodiversity is the life-blood of sustainable development and human welfare has not been properly communicated and has so far lacked conviction. Ireland cannot continue along the same path of economic growth and development with some adjustments to comply with EU legislation. The National Biodiversity Plan should represent and guide a significant cultural shift in our approach to the natural environment.*

*The presentation of the Plan should aim to appeal to a wide cross-section of Irish society.*

## **1.1 Rationale**

In order to achieve the vision, the sectors that use biodiversity need to make more accommodation with the needs of conservation. Biodiversity in this context encompasses wild animals and plants and their environment that is exploited for food, timber, fuel, or other products for the economy. This will involve policy changes in government departments; changes to the planning system, which will give more priority to planning development that does not encroach on areas of biodiversity importance; using incentives to encourage sustainable use of biodiversity and curbing incentives which conflict with this objective; levies to pay for biodiversity recovery programmes; and better enforcement of legislation.

The National Biodiversity Plan must emphasise that Ireland will conserve its biodiversity not only to comply with the Convention on Biological Diversity and EU policy, but also because it is valued sufficiently highly by Irish society. In addition to its intrinsic value, the economic cost of neglecting to protect biodiversity and the economic benefits of properly conserving it need to be flagged for further explanation in the text.

Drawing from examples of successful social and economic projects and programmes can strengthen the motivation for the Plan to succeed.

### ***1.2 Presentation***

The presentation should appeal to, and be understood by, a wide cross-section of Irish society. The foreword and introductions to each section should be written in non-technical language.

### ***1.3 Recommendations***

The Forum recommends that

- i. **The National Biodiversity Plan should contain a vision statement that should outline several general aims:**
  - To ensure that biodiversity is widely understood and appreciated in Ireland, including the recognition that biodiversity conservation underpins all sustained development and is essential for the survival of humanity into the future.
  - To raise the profile of biodiversity conservation to a level where it is incorporated as a consideration in every aspect of official policy.
- ii. **The presentation of the plan should be widely accessible to users throughout civil society in Ireland, and include introductions to each section in non-technical language, as well as introductions to each section in non-technical language.**



## 2. Current status of Ireland's biodiversity

*An assessment of the current status of biodiversity in Ireland should provide the basis for determining and allocating priorities and taking the necessary actions within the five-year time frame of the Plan.*

### *2.1 Recommendations*

The National Biodiversity Plan should contain:

- i. A description of the status of biodiversity within the network of protected areas, quoting from the Article 17 Conservation Status Assessments of Habitats and Species listed under the Habitats Directive [92/43/EEC].
- ii. A description of the current status of protected species listed in the Article 17 report and relevant data from other surveys and research programmes.
- iii. The description of the current status should highlight the habitats and species where action is particularly needed and should provide the basis for making priorities in the Plan.
- iv. A description of biodiversity outside the protected areas network.
- v. A comparison with other EU member states concerning the proportion of the national territory designated for biodiversity conservation.

### 3. The first National Biodiversity Plan and the mid-term reviews of 2004 and 2005

*Acknowledgement of the successes and failures of the first National Biodiversity Plan will allow us to build on that which has been achieved and to learn from previous experience. Building on successful actions in the first Plan can provide continuity with the Second Plan. In reviewing progress to date, the Government will acknowledge that the first Plan lacked prioritised, quantitative targets within specified timescales and it is, therefore, difficult to provide a meaningful audit.*

3.1 In its mid-term review of the first National Biodiversity Plan, published in November 2004, Comhar was critical of the progress made from 2002 to 2004. The report stated:

*“Progress on most of the actions in the Plan has been slow or minimal. It is difficult to audit the Plan due to a lack of prioritised targets within specified timescales. Where progress has been made in the implementation of some of the actions contained in the NBP, it is largely in areas where the European Commission has exerted pressures on the Irish authorities to deliver on commitments made.”*

3.2 The National Parks and Wildlife Service (NPWS) published its review of the implementation of the National Biodiversity Plan one year later, in November 2005. This review acknowledged the earlier Comhar review and concluded that, of the 91 actions listed in the Plan —

- 23 actions had been implemented;
- 60 actions were being implemented; and
- 8 actions required further progress.

3.3 The Forum acknowledges the efforts of the NPWS to implement the actions in the first Plan. The NPWS can report further progress up to early 2008. For example, EU site designation is nearly complete; a number of species action plans have been put in place; a number of surveys of broad habitat types are ongoing or have been completed; and a fisheries decommissioning programme has been put in place for the whitefish sector.

### *3.4 Recommendations*

- i. Include the main findings of the Interim Review (2005) and Comhar Review (2005) in the 2nd Plan.
- ii. Assess the actions that were successful and that can be continued and built upon.
- iii. Highlight the major issues and challenges arising, including
  - Major gaps in knowledge that limit our ability to conserve the full range of Ireland's biodiversity.
  - The need to manage and conserve biodiversity effectively within protected sites so that the original purpose for conserving these sites remains valid.
  - The need to avoid protected sites becoming disconnected in ecological terms from the wider environment.
  - The continuous, slow loss of biodiversity in the wider marine and terrestrial environment.
  - The need to conserve stocks of wild species used commercially, such as the Atlantic Salmon.
  - The need to ensure that biodiversity is safeguarded throughout the wider landscape so that conservation efforts are not restricted to protected areas or legally protected species.
- iv. Summarise Ireland's position on EU obligations (including infringements) and the successes achieved to date in addressing these.
- v. Critically examine the successes and failures of the first Plan, including reasons for non-completion of actions listed in the first Plan.

## 4. Overall approach, including targets

*A broad ownership of the National Biodiversity Plan by all sectors, including national and local government, the private sector and civil society in general is needed in order to maximize its effectiveness. This can be achieved through partnerships and designating lead partners from particular sectors to implement particular actions.*

*The Plan must bring added value to existing structures and initiatives.*

*Outcome orientated measurable (S.M.A.R.T) targets need to be set to enable progress to be measured. Clear targets can also help to shape expectations and create the conditions in which all actors, whether government, the private sector, or civil society, have the confidence to develop solutions to address threats to biodiversity.*

### **Partnerships**

The approach of the 2nd Plan should be one of partnership, promoting the involvement of all sectors in Irish society in its implementation. Partnerships can enable stakeholders and potential stakeholders to become more fully involved in biodiversity conservation and highlight not only the relevant roles that different sectors can play in the achievement of the Plan but also to help integrate biodiversity conservation and the priorities outlined in the Plan into their own work programmes and priorities.

An example of this approach is the partnership between the Heritage Council, Waterways Ireland and local authorities in the Shannon Waterways Corridor Studies, undertaken between 2002 and 2006.

The Biodiversity Fund, managed by the Heritage Council, encourages a wide range of groups and individuals to undertake species and habitat conservation measures. Building on this approach could allow some of the burden of the NPWS to be shared, and may even result in more efficiency and cost savings. It is also a means by which 'ownership' of biodiversity can be widened. The Fund has been increased by 40% for 2008.

### **Targets**

The development of targets for biodiversity conservation has become a key development in biodiversity conservation worldwide since the adoption of the biodiversity target in Earth Summit's Plan of Implementation viz. 'to reduce the rate of loss of biodiversity' worldwide in 2002. Since then there have been numerous examples of policies and initiatives that have adopted the 'targets' approach. One such is the Global Strategy for Plant Conservation (CBD, 2002) that provides some examples of how targets should be devised. Some of these targets could be adapted to the Irish situation. Targets should be S.M.A.R.T (specific, measurable, agreed or achievable, realistic, time-bound).

#### 4.1 Recommendations

The National Biodiversity Plan should involve:

- i. Full participation at the preparatory stage and ongoing input of stakeholders. The first step in this process has been taken with the public workshops in late January/early February 2008.
- ii. A broad ownership in order to be effective. This can be achieved by partnerships. Lead partners should be accountable for implementing actions.
- iii. A limited number of S.M.A.R.T targets. The targets should be linked to the key objectives of the Plan and its specific actions (see also Section 14).
- iv. A process towards monitoring the achievement of targets should be included in the Plan so that progress towards the desired outcome is clear at all times.



*Mallard at Ross Bay*

## 5. Current strategic policy context

*The National Biodiversity Plan will set out the national and international policy contexts. The Convention on Biological Diversity and EU Biodiversity Action Plan will give a broad direction to biodiversity conservation in Ireland, while national policy will focus on the specific needs of the country. Emphasis on the national policy context is important in order to foster ownership of the Plan by all sectors of Irish society.*

*Ireland has an important role to play in biodiversity conservation internationally. Nothing we do in Ireland should cause or result in the loss of biodiversity in other countries.*

**5.1** According to the Worldwide Fund for Nature's *Living Planet Report 2006* (WWF, 2006), Ireland's ecological footprint per person was among the highest in the world. Ireland was ranked 18th, at approximately 5 global hectares per person, and above that of Germany, the Netherlands and Japan. This should provide a strong reason for Ireland to take the lead in promoting biodiversity conservation globally and reversing biodiversity loss nationally.

### **5.2 Overseas development aid and biodiversity**

Irish Aid, the overseas development agency under the aegis of the Department of Foreign Affairs, published its Environmental Policy for Sustainable Development in 2007 (Irish Aid, 2007). Among its objectives are to increase national policy coherence by intensifying links with the National Parks and Wildlife Service, and to continue to engage with key multilateral environmental agreements, including the Convention on Biological Diversity. The strategy for delivering these objectives is 'mainstreaming', whereby the environment is recognized as a critical part of sustainable development. One of the Biodiversity Forum's key messages is the need to mainstream biodiversity into other sectoral policies. The Department of Foreign Affairs provides an example for other government departments to follow.

### **5.3 International cooperation to combat unsustainable logging and over-fishing**

Ireland's good reputation internationally should allow us to take a lead role in combating unsustainable logging (see Table 5.1) and over-fishing. Ireland could begin by reducing and ultimately eliminating its imports of tropical timber from unsustainable sources and promoting timber certification and tropical hardwood forest conservation projects as part of its development aid programme.

Table 5.1: Timber imports to Ireland by country, ranked by amount (m<sup>3</sup>)

Softwoods	Hardwoods
Sweden (364,000 m <sup>3</sup> )	Cameroon (44,507 m <sup>3</sup> )
Finland (165,000m <sup>3</sup> )	USA (24,151 m <sup>3</sup> )
Baltics (147,000 m <sup>3</sup> )	Ivory Coast (11,156 m <sup>3</sup> )
UK (103,000 m <sup>3</sup> )	
Germany (93,000 m <sup>3</sup> ).	

Source: ITGA Yearbook 2008

5.4 Ireland should take a stronger stance internationally on implementing the access and benefit sharing elements of the CBD provisions. Ireland is a signatory to the International Treaty on Plant Genetic Resources. Currently, there is almost no awareness of this issue in the Irish horticultural trade or among the wider public. The Plan should include actions that address this oversight.

### 5.5 Recommendations

- i. **Include a description of the following:**
  - CBD 2010 Biodiversity Target;
  - EU Biodiversity Action Plan for the Conservation of Natural Resources;
  - Ireland's responsibilities in relation to EU policies; and
  - The Malahide Message
- ii. **Describe cross-border cooperation on issues of shared concern**
- iii. **Outline Ireland's impacts on global biodiversity (ecological 'footprint') and its future role in reducing biodiversity loss internationally.**
- iv. **Take action internationally on:**
  - Unsustainable logging and over-fishing;
  - Pro-active enforcement of EU laws governing trade in endangered species;
  - Contributing to international multilateral bodies, including Convention Secretariats, that are charged with biodiversity protection;
  - Strong participation in international decision-making bodies on biodiversity;
  - Access and Benefit Sharing (ABS), highlighting the CBD's ABS provisions and aspects of Ireland's implementation of the International Treaty on Plant Genetic Resources.

## 6. Key objectives

*A small number of key objectives need to be set out. These should be related to the actions and targets for the five-year duration of the National Biodiversity Plan.*

### 6.1 Recommendations:

- i. Biodiversity should be 'core' or 'mainstream' in decision-making at government level. The Plan should propose the means by which biodiversity conservation concerns can be integrated into general governmental decision-making.
- ii. The knowledge base for biodiversity conservation needs to be built up through research and surveys.
- iii. Public awareness needs to be substantially increased through the mass media, education in schools and colleges, public projects, and in-house training.
- iv. Expand, improve management, and improve monitoring of protected areas.
- v. Substantially improve biodiversity conservation outside protected areas through, inter alia, better planning, partnerships, public awareness and concern for biodiversity, incentives and enforcement.
- vi. Investigate effects of, and prepare responses to, climate change, invasive species and biosafety issues to protect Ireland's biodiversity.
- vii. Ireland should aim to take a lead role in reversing loss of biodiversity, taking encouragement from successful national social and economic initiatives.

**'Mainstreaming'** biodiversity at government level ideally requires a cabinet decision that biodiversity should be fully integrated into the core policy areas of all relevant departments, including Finance; Communications, Marine, and Natural Resources; Agriculture, Food and Rural Development; Transport; and Health and Children. Mainstreaming biodiversity conservation concerns into local government should also be made a priority.

**Public awareness of biodiversity** is still at an unacceptably low level. Awareness is necessary to gain public support, and support for biodiversity objectives is crucial if the necessary actions are to be undertaken successfully.

**Biodiversity conservation outside protected areas** is poor, and will benefit from better survey information, improved physical planning, awareness-raising, partnerships with other sectors, more effective use of incentives, and enforcement of existing legislation.

Ireland should take a **lead role** in Europe in reversing loss of biodiversity, and this could provide a stronger motivation to implement the Plan. Examples could be taken from successful public health campaigns and economic programmes. Biodiversity underpins the tourism industry, and it is therefore important to its economic success. The Plan could become a vehicle by which stewardship of biodiversity is promoted in the national interest.

*Orchid (Epipactis Atrorubens)*



## 7. The knowledge base: understanding and recording biodiversity

*Decisions on actions to conserve biodiversity should be based on adequate scientific knowledge. We need a structured approach to the collection, collation, management, access and dissemination of biodiversity data that forms the basis of this knowledge. Harmonised, accessible databases are required so that all the responsible authorities and the wider public can make use of the same information.*

7.1 We cannot conserve biodiversity adequately unless we have sufficient data with which to make decisions and allocate priorities. The National Biodiversity Plan needs clear policy priorities so that research is directed to the areas most needed. Research needs to be coordinated between the organisations involved in biodiversity research. The National Platform for Biodiversity Research (NPBR), if reinstated, could fulfill a useful role in this regard. The NPBR produced the report *Biodiversity Knowledge Programme for Ireland* (NPBR, 2006). The report recommended the broad areas for research and identified gaps in knowledge.

The **National Platform for Biodiversity Research** has identified four broad areas of research:

1. Research to support biodiversity policy (Estimated cost: €2.1m/year)
2. Research to improve knowledge and skills development (Estimated cost: €20.24m/year)
3. Research to support economic, social and educational needs (Estimated cost: €4.44m/year)
4. Recommendations and funding structures for the implementation of the biodiversity research programme (Estimated cost: €3.3m/year)

*Source: Biodiversity Knowledge Programme for Ireland (NPBR, 2006)*

### 7.2 Recommendations

- i. Describe the current situation regarding collection, collation, management and dissemination of data on biodiversity.
- ii. The Plan should reflect the identification of the National Biodiversity Data Centre in the Programme for Government as a centre for excellence on biodiversity. It should also recognise that other government departments and non-government organisations hold vital data sources.
- iii. The National Platform for Biodiversity Research should be reinstated under the auspices of the National Parks and Wildlife Service and the Environmental Protection Agency.

- iv. Take into consideration the implementation of the recommendations of the Biodiversity Knowledge Programme for Ireland.
- v. A structured approach is needed for the collection, collation, management, access and dissemination of biodiversity data. This should be led by the NPWS, in association with the National Biodiversity Research Platform and the National Biodiversity Data Centre. The steps that need to be taken include:
  - Catalogue the major groups of animals and plants in order to understand Ireland's biodiversity more and to build on baseline data.
  - Establish a registry of metadata sources and expertise.
  - Carry out an audit of existing data sets for the marine environment and continue audits for the terrestrial environment.
  - Define how the datasets should be updated.
  - Undertake Red Lists.
  - Nominate pilot areas, e.g. Natura 2000 sites. These sites will need to be examined in an integrated way. The key species and the information gaps need to be identified.
  - Identify conservation priorities.
- vi. All the relevant decision-making authorities need to be able to access harmonised databases.
- vii. Databases should be web-enabled.
- viii. GISs should be compatible.
- ix. Databases should be capable of being interrogated.
- x. Databases should be integrated into the national planning framework.
- xi. Specific surveys should include:
  - National Habitat Survey
  - Countryside Survey

A **National Habitat Survey** would inform on the status of biodiversity outside protected areas. It would, for example, allow Local Biodiversity Action Plans to be based on sound data so that effective actions could be taken at local level to protect species and habitats. This needs to be presented in a standardized GIS mapping layer format to enable other bodies to access it.

A **Countryside Survey** would provide a statistically structured sample of the national vegetation and habitat resources as a baseline against which future changes can be tracked.

Both these initiatives need to be coordinated with similar surveys in Northern Ireland.

## 8. Conservation and management of biodiversity: identification and ranking of priorities

*Scientific information on biodiversity allows us to make decisions about particular actions to manage and conserve habitats and species and, where necessary, to initiate recovery programmes. These actions need to be tailored to the available staff and resources, and the five-year time frame. Therefore, it is essential to identify and rank priority actions.*

**8.1** The National Biodiversity Plan will outline Ireland's national and international responsibilities for biodiversity conservation. The strategy under which actions to conserve biodiversity will be undertaken needs to be explained. This includes making priorities for the lifetime of the Plan, but with a view beyond the next five years.

Ireland's global and EU responsibilities will help to inform the Plan's priorities. The Convention on Biological Diversity, the EU Action Plan for the Conservation of Natural Resources and the relevant EU directives are the main supra-national instruments that will help to identify priorities. In addition, the Marine Strategic Directive will require Ireland to designate a network of marine protected areas.

### **8.2 Protected areas**

Apart from the legal obligations to maintain and, where necessary, restore, the conservation status of European sites, greater attention needs to be paid to preserving the integrity of designated sites rather than merely protecting the geographical boundary. Furthermore, certain development should not be allowed to proceed on or near the boundary, in order to maintain vital links with the wider environment.

Most attention has been paid to designating EU Special Areas of Conservation and Special Protection Areas. While these are a priority, sites in the national designation category, Natural Heritage Area, have received less attention and appear to have become a low priority. The list of NHAs needs to be updated and those sites that still have biodiversity value need to be designated.

National Parks have two major objectives — biodiversity conservation and public use and appreciation of nature. There is still a very low public awareness of biodiversity. National Parks can help to raise awareness of biodiversity, while expansion of existing National Parks should help to conserve a larger area for biodiversity.

### ***8.3 Strengthening the relationship between protected areas and the wider environment***

There is a danger that protected areas could become isolated 'islands' of rich biodiversity surrounded by 'deserts'. Protected sites should be viewed as the bridgeheads for recovery in the wider countryside. There are a number of ways to maintain and strengthen the connection. Corridors that link biodiversity-rich sites could include strips of woodland, hedgerows and waterways. Local authority development plans should zone such areas to protect them from inappropriate development. They can also be used as buffer zones around biodiversity-rich sites.

The recommendations of the Ramsar Convention need to be fully implemented. The legislative provisions of the planning and wildlife codes should be strengthened to provide for enhanced protection and wise use of wetlands. Such measures would support the implementation of the Water Framework Directive. Similarly, the planning and wildlife codes should be strengthened to provide for enhanced protection of hedgerows as important biodiversity and landscape features. Hedgerows and wetlands are also potentially very valuable carbon sinks and their protection and enhancement is advocated by the Climate Change Convention.<sup>2</sup>

### ***8.4 In situ conservation outside existing protected areas***

Ireland lacks adequate information on the status of biodiversity outside designated sites, although recent NPWS surveys of a number of broad habitat types and certain species have increased the knowledge base recently. The NPWS could commission an analysis of the extent to which Ireland's biodiversity is contained within the protected areas network and designate additional sites as necessary.

An incentive scheme for property owners could be introduced. It would encourage, through tax credits, private owners of important biodiversity sites to manage such areas for conservation (see also Section 11.4)

The development of a network of local biodiversity sites could be a means by which certain sites that do not qualify for designation as Natural Heritage Areas and EU sites could be recognised and afforded protection. Such sites could be given protective zoning in local authority development plans. Voluntary stewardship of such sites could be encouraged by means of accessible guidelines (see also Section 10.3).

### ***8.4 Ex situ conservation and recovery***

The National Botanic Gardens, zoos and private collections have an important role to play in conserving biodiversity in gene banks and living collections. The importance of ex situ conservation as an integrated part of Ireland's biodiversity conservation plan should be recognised and highlighted.

### ***8.5 All-island issues***

The Republic of Ireland and Northern Ireland share a number of important EU coastal and estuarine sites and terrestrial sites.

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<sup>2</sup> Art. 4.1.d of the United Nations Framework Convention on Climate Change

### 8.6 Recommendations

- i. Expand existing National Parks: This should be achieved while also protecting the livelihoods of those living in or around the parks, requiring stakeholder participation.
- ii. Re-survey, where necessary, and designate all proposed Natural Heritage Areas.
- iii. Develop a mechanism to protect local areas of biodiversity.
- iv. Investigate the establishment of marine National Parks and Nature Reserves, as required by the forthcoming Marine Strategic Directive.
- v. Fully implement the recommendations of the Ramsar Convention.
- vi. Coordinate actions with the Northern Ireland Environment and Heritage Service to protect cross-border sites.
- Vii. Appoint additional staff at all levels as required to achieve the actions included in the Plan, including Conservation Rangers, with salary increases commensurate with their skills and job demands.



## 9. Sustainable use of biodiversity

*“The environment can less and less be portrayed as an economic constraint. It is becoming an economic imperative.”*

*Achim Steiner, UNEP Executive Director*

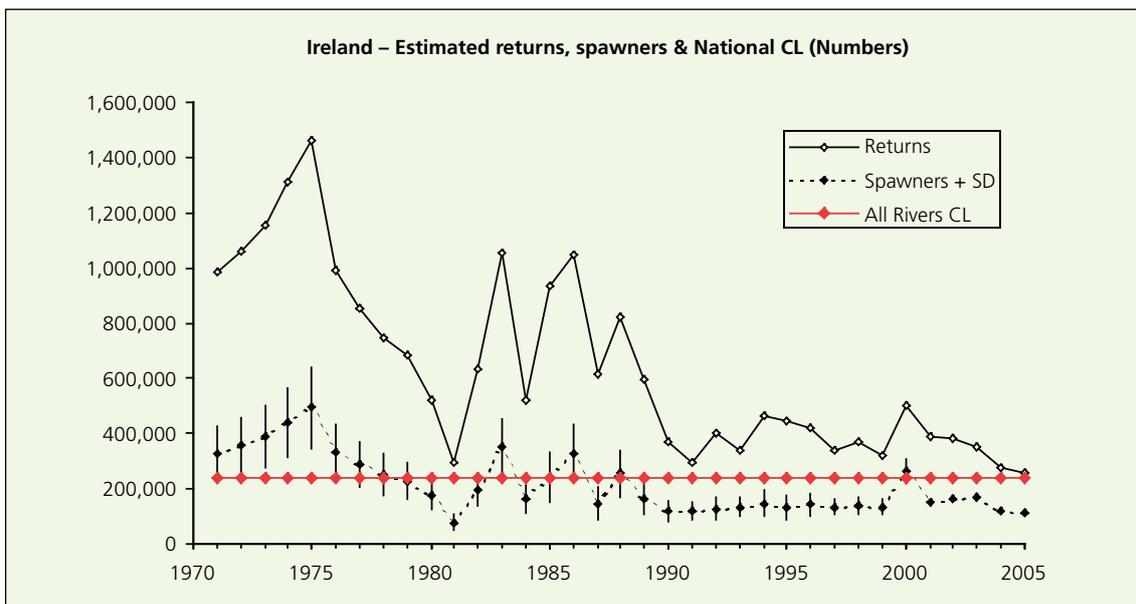
### 9.1 Marine fisheries

Ireland’s marine fisheries resources are under increasing pressure. Even though Ireland had fish landings of 245,000 tonnes in 2002 (worth €210,000,000), the second most valuable year on record, these figures mask a long-term decline in volumes. Irish coastal waters are amongst the richest fishing grounds in the world in terms of primary productivity. Ireland needs to adopt an ecosystem-based approach to ensure the sustainable management of wild fish stocks.

### 9.2 Migratory fish species: the Atlantic Salmon

The Irish Government and agencies have in recent years introduced a range of stringent, scientifically based management measures to curb excessive exploitation and to rebuild wild salmon stocks. These decisions were made against a backdrop of poor stock status and declining marine survival (see Figure 9.1). There are currently 32 Irish salmon rivers listed which fall specifically under the EU Habitats Directive. However, in applying the Directive, the authorities were conscious that consideration must be given to all of the salmon populations and not just specifically to these 32 rivers.

Figure 9.1



Source: Whelan, K. *Towards Sustainability: The Marine Sector. Comhar Briefing Paper (2006)*

### ***9.3 Forestry and woodlands***

The Irish Government is now committed to sustainable forest management, which includes consideration of biodiversity. Recent initiatives include the Native Woodland Scheme and the Forest Environment Protection Scheme to encourage consolidation and expansion of native woodland, and more environmentally friendly forestry on REPS (Rural Environmental Protection Scheme) farms, respectively. These incentives are covered in Section 11, Cross-Cutting Issues, below. The Forest Service is operating to its 1996 strategy, *Growing for the Future*. Under this strategy, a target of 17% of the land area under forest by 2030 has been set. It is widely recognised that this strategy needs to be reviewed and there is an opportunity for the National Biodiversity Plan to inform any such review. Other initiatives include the Indicative Forest Strategy (in preparation), a major national forestry planning tool. The Heritage Council will launch a review of its forestry policy later in 2008. This should contribute to any NPWS input to national forestry strategy.

The Plan should outline national targets for native woodlands whose primary purpose is biodiversity conservation.

### ***9.4 Agriculture***

The REPS is the main vehicle for delivery of environmental benefits from farming. The very considerable financial resources allocated to the REPS need to be better used for biodiversity conservation. Ecological expertise and baseline data are the two major problems that need to be addressed if the REPS is to be effective in conserving biodiversity.

EU Member States are committed to make High Nature Value Farming (HNVF) more economically viable by 2008. HNMF has received little attention so far in Ireland. The aim of HNMF is to facilitate farmers in high nature value areas to continue to farm in the same way, thus maintaining biodiversity. The areas in which HNMF is to be maintained could be identified as part of a wider national landscape programme. The Minister for the Environment has signaled this in 2007, but no further details are available at the time of writing.

### ***9.5 Tourism and leisure***

This sector is a major user of biodiversity resources, and includes angling, golf, walking, boating and cycling. While tourism and leisure can offer a sound motivation to conserve natural resources, it can also lead to over-exploitation. For example, the proposed Mid-Shannon Tourism Investment Scheme plans to offer incentives for tourist-related development, such as marinas, on Lough Derg. Apart from the potential threats to the shoreline, such incentives could encourage excessive water-based recreation, leading to further losses of biodiversity in and around the lake.

### *9.6 Horticulture*

The spread of alien invasive species (including pests, diseases, plants and animals) through the horticultural trade is currently a cause for concern. The sector is also responsible for public and private landscaping projects, and could be harnessed to provide benefits for biodiversity. The Plan should promote the use of native species in public and governmental programmes and developments, stressing the need to source material used from local provenances.

### *9.7 Recommendations*

- i. Incorporate the use of appropriately qualified biologists, following clear ecological guidelines, working alongside agriculturalists, in the making of REPS plans.
- ii. Establish a coherent approach to natural resource management that ensures adverse impacts to designated sites and important species and habitats are considered through licensing procedures, in policy development, and in marine and terrestrial environments.
- iii. Establish a programme for collecting baseline data on REPS to allow for monitoring and evaluation.
- iv. Explore the potential for High Nature Value Farming within the context of a national landscape programme.
- v. Incorporate the relevant recommendations of the forthcoming Heritage Council review of forestry policy to maximise the potential of forestry to deliver on biodiversity benefits and minimise the negative effects of forestry expansion.
- vi. Propose the Forest Service and Coillte Teoranta as lead partners for demonstration projects and programmes related to biodiversity conservation in the forestry sector.
- vii. Devise measures to effectively control the sale of alien invasive plants in garden centres.
- viii. Initiate an awareness campaign/programme to influence the horticultural sector on the benefits of promoting biodiversity through public and private landscaping and planting projects and programmes.

## 10. Urban biodiversity

*We must not lose sight of the objective to conserve sites of biodiversity interest in built-up areas. Zoning of green space for new developments should be a priority, not only for amenity and health reasons but also for biodiversity. Our increasingly urbanised society could be an important potential support base for biodiversity conservation. Mobilising this support base will involve educational initiatives, practical projects and incentives, to encourage community responsibility and ownership. People need to be re-connected with nature and with the sectors that use Ireland's biodiversity resources to supply goods and services.*

### ***Biodiversity in built-up areas***

Expansion of built-up areas has encroached on habitats and threatened some species. To date, the protection of habitats (e.g. woodlands or wetlands) within built-up areas has been generally unsatisfactory. Usually, this is because such areas are not officially designated or zoned for protection in development plans, or because local authorities have removed zoning that limits development. Local communities and concerned individuals are often left with the task of defending such sites from unsuitable development, with little or no support. The proper integration of biodiversity considerations into urban spatial planning should reduce the need for such desperate measures. Recently, the Minister for the Environment issued draft planning guidelines that would require, *inter alia*, up to 20% of zoned land to be retained as 'green' areas. The guidelines make reference to local biodiversity action plans, incorporation of natural features and the need to avoid damage to designated sites (DoEHLG, 2008).

The opportunities for biodiversity conservation in built-up areas can be more fully exploited by involving a wide spectrum of interests, including architects, horticulturalists, health professionals, farmers and local communities.

### ***10.1 Integration of biodiversity objectives into spatial planning***

Planning guidelines will provide a framework within which to include the protection and restoration of biodiversity in urban areas, but this approach is not sufficient on its own. Local authorities need personnel with expertise to guide and advise them. The few Biodiversity Officers appointed thus far have been useful in providing such guidance, but such professionals are needed in every local authority. A system has to be devised by local authorities to identify local biodiversity sites, with non-governmental expertise, drawing on the resources of the National Biodiversity Data Centre.

### ***10.2 Development of areas for biodiversity***

New areas can be created for biodiversity in local authority parks and on private land as part of new developments. For example, new wetlands or woodlands can be created when and where appropriate. Public parks and public open space can have areas set aside for biodiversity, and management need not be so intensive.

### ***10.3 Involving the architectural and horticultural professions***

The architecture and horticulture professions could become more involved in urban biodiversity conservation. Partnerships between local authorities, the professions and community groups on group projects could be productive. A number of demonstration projects could be set up to illustrate principles of sustainable urban design that include biodiversity. This approach has the potential to promote biodiversity conservation more widely than publications and websites because local people are engaged directly.

### ***10.4 Biodiversity and health***

#### ***Healthy food — healthy environment***

The link between physical health and a healthy, biodiverse environment has yet to be fully exploited. For example, the Worldwide Fund for Nature in the UK reported on research conducted for Scotland's Global Footprint Project, which revealed that there is a correlation between an unhealthy diet and detrimental impacts on the global environment. The new Hungry for Success schools menu has a 40% lower Footprint. This is primarily because it contains only half the amount of animal products than previously, in line with recommendations to eat meat and animal fats in moderation. Furthermore, by using fresh meat and dairy products instead of highly processed products, the meat and dairy produce used in Hungry for Success meals has a 50% lower footprint than the same ingredients in the old style menu. Buying locally produced, fresh food for schools could reduce their Footprint further and benefit farming and food businesses simultaneously (WWF-UK, 2006).

**10.5** There is mounting evidence of the benefits to human health and well being from a healthy environment. Good diet and exercise are essential components of healthy living, but so too is a healthy environment, which is maintained by its biodiversity. There are opportunities for synergies with the health sector that should be explored as part of the National Biodiversity Plan. These could include, for example:

- The need for open space and exposure to nature in exercise and recreation and as part of patient treatment and recuperation. A possible partner could be the Irish Medical Organisation (IMO).
- Public education about the dependence of the pharmaceutical industry on global biodiversity. Possible partners might include the Department of Health and pharmaceutical companies.
- Healthy diet and its relationship with nature and biodiversity. Possible partners could include the Department of Health, Department of Education and the Irish Farmers' Association.

### 10.6 Recommendations

- i. Devise a mechanism whereby local biodiversity areas can be protected. Protective zoning in Development Plans may be the first step, but this may need to be supported by additional measures.
- ii. Recommend the appointment of further biodiversity officers and heritage officers to local authorities, to oversee the development and implementation of local biodiversity action plans.
- iii. Explore partnerships with the architectural and horticultural professions on projects of mutual benefit.
- iv. Explore synergies with the health sector, including partnerships on programmes and projects that link health and biodiversity.



# 11. Cross-cutting issues

*One of the core messages of the Biodiversity Forum is the need to 'mainstream' biodiversity into decision-making at all levels. This involves incorporation of biodiversity considerations into national plans and programmes, physical planning, financial incentives and the taxation system.*

## **11.1 National plans, policies and legislation**

Integration of environmental objectives into national policy has existed for at least several decades, but has not necessarily translated into sufficient action in practice. The process of integrating specific biodiversity objectives into national policy has also begun, but still has a relatively low priority. The National Biodiversity Plan has the potential to influence and guide the programmes and projects in the National Development Plan 2007-2013.

## **11.2 Staffing**

Lack of staff involved in biodiversity issues at departmental and local authority levels in certain key areas impedes progress in achieving objectives and targets.

The Inter-Departmental Steering Group on Biodiversity needs to operate with clearly defined priorities and procedures. It has been ineffective to date because it lacks an effective structure in which to operate. Departments should ensure that their representative on the Steering Group is appropriately qualified and informed to be able to operate effectively within the Group and has a mandate within each department to guide, advise or inform departmental responses to the Plan.

## **11.3 Physical planning**

Proper physical planning must play an important part in preventing the destruction of habitats and species, and maintain space and/or conditions for recovery. This will involve:

- Planning that respects the boundaries of protected areas and applies appropriate buffer areas and corridors, where necessary.
- Proofing of development plans.
- Devising ways to protect local biodiversity areas.
- Appointment of biodiversity officers to every local authority.

Integration of biodiversity into physical planning policies and practices has begun with the appointment of biodiversity officers and heritage officers to local authorities, and the making of 20 local biodiversity action plans to date. Promotion of coordinated actions across county boundaries could lead to further improvement. This relates to sites spanning county boundaries, such as the major Midland lakes and coastal bays and estuaries. Coordinated actions have been promoted by the Heritage Council

in its Waterways Corridor Studies of the Shannon system from 2002 to 2006. In addition, River Basin District Management Planning involves coordination of local authorities and state agencies and has the potential to deliver benefits to biodiversity indirectly. Finally, cross-border coordination is essential for the management of coastal and peatland designated sites that span the border.

#### ***11.4 Financial incentives in agriculture and forestry***

The REPS is aimed at supporting farmers for the purpose of wider countryside conservation. It is clear that the REPS has been successful in providing financial assistance to farmers managing smaller farms in more marginal circumstances. It is less clear that it has prevented further losses of biodiversity. Two major problems exist: Firstly, most REPS planners are qualified in an agriculturally-related discipline, often without ecological expertise, and qualified ecologists are rarely employed to offer advice on the ecological component of the REPS plans. Secondly, as detailed ecological baseline data is rarely collected at the outset of a REPS plan, meaningful assessment of the impact of the REPS plan on biodiversity is not possible.

The FEPS (Forest Environment Protection Scheme) is designed to encourage environmentally friendly forestry on REPS farms. This has some potential to encourage biodiversity conservation, but only if qualified experts are employed in the development of farm plans.

The effectiveness of the various measures designed to protect and enhance biodiversity in forestry is partly dependent on expertise to guide foresters and contractors on the ground.

Biodiversity is a core element of the Native Woodland Scheme and the most important aspect of the scheme is that the funding is available year-to-year.

#### ***Tax relief for owners of biodiversity-rich sites***

Currently, property owners, managers and users have associated the ownership of designated sites with restrictions on development and loss of financial opportunities. Apart from the REPS, suitable for less intensive farmers, there is no across-the-board incentive for landowners to benefit. By contrast, income earned by artists, writers, composers and sculptors from the sale of their works is exempt from tax in certain circumstances. While the same mechanism may not be applied to biodiversity conservation, the principle of offering a tax incentive to those who are custodians of a priceless national resource should apply. For example, there could be tax relief on inheritance tax, devised as a proportion of the property designated. There could also be tax relief on profits from agricultural, forestry, aquaculture and wild fisheries produce to owners of designated sites, where those sites have been managed in ways that are consistent with biodiversity conservation.

### ***Biodiversity and financial investment***

Financing conservation projects with capital from institutional investors will gain importance in the coming years. The market for so called ethical - especially ecologically sustainable - investments grows consistently. It may be possible to raise additional money for the financing of conservation through engagement of investors who wish to invest ethically. This is the key message of this study.

A recent study by PriceWaterhouseCoopers (2007) analysed the viability of investments in privately run, profit-orientated nature conservation projects worldwide. The study found that ecotourism and sustainable forestry stood out as fields of positive return on investment.

### ***11.5 Climate change***

Climate change is predicted to have a fundamental impact on biodiversity in Ireland, causing changes in the ecological functions and diversity of most ecosystems and well as on the distribution and status of many species. Some ecosystems and habitats will be impacted more than others. For example, the effects due to climate change on Ireland's marine and coastal areas are likely to include:

- Increased intensity of storms, increased seasonal flooding and inundation of low-lying areas.
- An increase in mean seawater temperature, leading to northerly shifts in the ranges of planktonic and other species, including migratory fish (e.g. pilchard, breams), enhanced recruitment of some native species (e.g. mullet, bass) and a decline in some wild populations (e.g. salmonids).
- Species losses and new arrivals due to shifts in biogeographical range and greater incidence in non-native species.
- Increases in phytoplankton biomass throughout the year, changes in the timing and intensity of spring algal blooms and the structure of zooplankton communities with as yet unknown, but potentially substantive, consequences for the marine food chains.
- Elevated summer and winter temperatures in shallow bays and inlets with corresponding changes in the structure and stability of marine plant and animal communities.
- Changes in near-shore salinities, sediment loading and distribution due to alterations in river discharges and increasing sea level (Whelan, 2006).

Preliminary studies carried out, for example, at the National Botanic Gardens indicate that significant proportions of Ireland's plant species may be threatened as a result of climate change over the next few decades.

The Plan should include the development of specific measures to ensure that losses due to climate change are minimised both during the life of the plan and beyond and to ensure that mechanisms and procedures are agreed and developed to ensure that effective adaptation, mitigation and conservation measures are in place for the coming decades.

The public benefit of biodiversity and the role of the natural environment in mitigating the effects of climate change, e.g. providing natural barriers to flooding, needs to be recognised.

### *11.6 Invasive species*

Strategies and programmes need to be put in place to control existing and newly arriving invasive species. Early warning systems and responses need to be developed to prevent invasion of new detrimental alien organisms.

### *11.7 Recommendations*

- i. The National Biodiversity Plan should seek to influence all national plans and programmes.
- ii. More staff need to be appointed to key areas in all relevant government departments to ensure the effective implementation of the Plan.
- iii. Resources should be made available to strengthen biodiversity protection and enhancement at local level. Each county and city council should be required to employ at least one full-time biodiversity officer.
- iv. Physical planning must make more accommodation for the needs of biodiversity conservation and not solely in designated areas.
- v. Awareness raising of biodiversity should address the role of the natural environment in mitigating the effects of climate change. A strategy for wetlands and their role in flood management also needs to be developed.
- vi. Cooperation between key government departments and between local authorities is essential if the Plan is to succeed.
- vii. Existing financial incentives that have an environmental objective must be made to work effectively for biodiversity conservation.
- viii. New financial incentives, including tax incentives, should be explored with the objective of rewarding the custodians of biodiversity where it is managed for its conservation value.
- ix. Financial and other support measures need be put in place to facilitate research on the impacts of climate change on species, groups of organisms and ecosystems and to facilitate the development of recovery or effective mitigation measures.
- x. Create a long-term species monitoring system to assess how biodiversity is impacted by climate change.
- xi. Identify the species and ecosystems most at risk from climate change and integrate the management of these threats into species actions plans and protected area plans.
- xii. Assess the potential of using habitat corridors and other mechanisms for assisted migration of species most seriously impacted by climate change.
- xiii. Put in place an early warning system to identify likely new pests, diseases and invasions of alien species facilitated by climate change that could impact on Ireland's biodiversity.

## 12. Education, training and awareness

### 12.1 Recommendations

- i. Environmental sciences and ecology should be included in third level courses for engineers, planners and architects.
- ii. Biodiversity courses could be incorporated into the Career Professional Development in the Irish Planning Institute, which provides education opportunities for planners.
- iii. Biodiversity training and outreach is needed in the marine, forestry, agriculture and horticulture sectors.
- iv. Public education and awareness of biodiversity needs to concentrate first on explaining biodiversity to lay people, and secondly, on making biodiversity relevant to the public. Public education could include highlighting the economic costs of not conserving biodiversity and the benefits of proper conservation; and the links between biodiversity and food production, nutrition and health.
- v. A public education programme needs to be sustained and high-profile if it is to be effective. Lessons can be learnt from successful commercial advertising and promotion.



# 13. Support mechanisms for biodiversity conservation

## **13.1 Finance**

Adequate finance is crucial if the NBP is to be implemented effectively. The Forum believes that the Plan should bring added value to existing structures and initiatives. A variety of sources of finance should be sought. These may originate in other sectoral plans and programmes for which budgets have been assigned. Some examples include:

- The REPS, which has an annual budget of approximately €300 million. The potential of the REPS as an instrument for biodiversity conservation needs to be maximised (see also Sections 8.4 and 10.4).
- The forestry sector, where forestry grant schemes can be made to deliver more benefits for biodiversity.
- Development brings benefits, but it also entails costs. Development levies are a source of funding for local authorities and some of this money could be earmarked for biodiversity conservation by local authorities.

If this approach is used, the amount of additional dedicated funding for the Plan can be minimised.

## **13.2 Dedicated expert staff, facilities and resources**

Additional dedicated expert personnel, facilities and resources are needed if the objectives of the 2nd Plan are to be achieved. These include:

- Recognition and support for governmental, university and non-governmental institutions which will play a significant role in supporting the implementation of the Plan.
- Additional staff for biodiversity monitoring, management and conservation, including Conservation Rangers, for on-the-ground advice, monitoring and enforcement of legislation.
- Biodiversity Officers, to advise local authority departments, liaise with community groups, oversee the development and implementation of local biodiversity action plans, and consult on planning applications and forward planning.

## **13.3 Mobilisation of people from other sectors**

The potential of the non-government sector to deliver biodiversity objectives has not been sufficiently tapped. Non-government organisations have shown that they are able to undertake complete projects, but they need financial support. Such organisations can be more efficient in delivering objectives than official bodies in certain circumstances.

#### *13.4 Recommendations*

- i. The National Biodiversity Plan should bring added value to existing structures and initiatives. Thus, the amount of additional dedicated funding can be minimised.
- ii. Sources of additional supporting funding for the National Development Plan should be explored, using budgets for existing schemes in other sectors, including the REPS and forestry grant schemes.
- iii. Additional staff for monitoring, management and conservation of biodiversity are needed, including Conservation Rangers and other dedicated on-the-ground technical staff.
- iv. Biodiversity Officers need to be appointed to all local authorities.
- v. The use of levies for biodiversity conservation measures should be explored.



## 14. Targets and indicators

*Targets for the Plan's actions should be S.M.A.R.T (specific, measurable, agreed or achievable, realistic, time-bound).*

The inclusion of a series of targets in the Plan is recommended, with the aim of achieving a series of measurable goals by 2013. The Convention on Biological Diversity has invited governments to develop and incorporate targets into their National Biodiversity Strategies and Action Plans. The incorporation of targets in to the Plan can also be seen in terms of an appropriate response to Ireland's international obligations, as well as providing a means to ensure a quantitative measure on the achievement of the Plan.

Targets for the Plan's actions should be S.M.A.R.T (specific, measurable, agreed or achievable, realistic, time-bound).

Accountability for achieving targets will depend on which government partners are given responsibility under the Plan.

Some suggestions for targets include:

- a) **Outcome orientated targets — those that relate to agreed outcomes for the conservation of biodiversity itself. Examples include:**
  - Know the populations of priority species and groups of species by 2010
  - Ensure that no native species goes extinct in Ireland during the period of the Plan
  - Ensure favourable status of [all / x% of] priority species and habitats by 2013
  - Ensure no further infringements of EU nature protection law by 2010
  - Ensure that [100%] of [timber] materials used in government building projects are derived from sources that are managed consistent with biodiversity conservation needs
  
- b) **Process targets (sometimes termed 'Milestones') — targets that relate to specific measures that will be needed to ensure that the outcome targets can be achieved.**
  - Establish conservation objectives for priority species and habitats by 2009
  - Re-survey, where necessary, and designate all proposed Natural Heritage Areas by 2010
  - Appoint biodiversity officers to all local authorities by 2010
  - Complete local biodiversity action plans for all counties by 2009
  - Develop Species Action Plans for [all] / [x% of] critically endangered species in Ireland by [date]

In many cases, the development of outcome-orientated and measurable targets is difficult, particularly when adequate data on the status of particular species and / or ecosystems is lacking. In these cases it is recommended that a series of INDICATORS be included that can indicate by inference the achievement of a particular biodiversity conservation target.

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# Annex 1 – Membership of the Biodiversity Forum

Pillar	Membership
<b>Chairperson</b>	Dr. Peter Wyse Jackson (Director National Botanic Gardens)
1.	Dr. Liam Lysaght (National Biodiversity Data Centre) Dr. Ken Whelan (Marine Institute) Dr. Rosaleen O'Dwyer <sup>3</sup> (LA Heritage/ Biodiversity Officers) Cliona O'Brien (Heritage Council)
2.	Niamh Hunt (Chambers of Commerce/ Jansen Pharma) Ruaidhri Deasy (IFA)
3.	Karin Dubsy (Coastwatch) Siobhan Egan (Birdwatch Ireland) Anja Murray (An Taisce).
4.	Ornagh Darcy (Irish Rural Dwellers Association)
5.	Professor Emer Colleran (UCG) Professor Richard Moles (University of Limerick)
<b>Northern Ireland</b>	Bob Brown (Northern Ireland Biodiversity Group) Ken Bradley (Department of Environment) Louise McAlavey (Department of Environment) Dr. Michael Meharg (Environment & Heritage Service)
<b>Others: ex-officio and support</b>	Ciaran O'Keeffe (Dept. of Environment, Heritage & Local Government) Colman O'Criodáin (Dept. of Environment, Heritage & Local Government) David Kelly (Dept. of Environment, Heritage & Local Government) Noel Casserly (Comhar) Paschal Stephens (Comhar) Niamh Kirwan (Comhar)



# Comhar

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