

National Biodiversity *Plan*



**An Roinn Ealaíon, Oidhreachta,
Gaeltachta agus Oileán**

Department of Arts, Heritage,
Gaeltacht and the Islands



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Foreword



Biological diversity - the variety of life on Earth - is experiencing serious and accelerating losses. This National Biodiversity Plan sets out the framework through which Ireland will provide for the conservation and sustainable use of biodiversity over a five year period. Under fifteen themes and sectors, it details actions which will be pursued to achieve this objective.

The Convention on Biological Diversity was opened for signature in 1992. Ratified at this stage by some 180 countries it is pre-eminent amongst nature/biodiversity-related conventions, both in terms of its widespread support and its comprehensive scope. It represents the charter within which nature conservation and other issues relevant to the conservation and sustainable use of biodiversity must be addressed on a worldwide basis. By becoming a signatory in 1992 to the Convention Ireland undertook to promote the conservation and sustainable use of biological diversity. This is a function which I, as Minister for Arts, Heritage, Gaeltacht and the Islands, have particular and explicit responsibility for under Section 9 of the Wildlife (Amendment) Act, 2000. This plan is designed to ensure Ireland fulfils its obligations under the Convention.

**Síle de Valera T.D.,
Minister for Arts, Heritage, Gaeltacht and the Islands.**

April, 2002

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Chapter 1: Overall Context





PREFACE - IRELAND'S NATIONAL BIODIVERSITY PLAN

- 1.1 This document sets out Ireland's National Biodiversity Plan, prepared in response to the obligation contained in Article 6 of the Convention. The Biodiversity Plan spells out a range of measures, involving significant costs, and the time-scale within which they might be implemented. These measures will be considered in due course in the context of available resources. The plan pays special attention to the need for the integration of the conservation and sustainable use of biological diversity into all relevant sectors. The full and effective integration of biodiversity concerns into the development and implementation of other policies, legislation, and programmes is of crucial importance if the conservation and sustainable use of biodiversity is to be achieved. This is probably the greatest challenge in implementing the Plan.
- 1.2 The principle that environmental concerns should be integrated into all relevant sectors is now widely accepted. Environmental policy in Ireland is now based on the internationally recognised principles of sustainability, "the precautionary principle", the integration of environmental considerations into all areas, "the polluter-pays principle" and the principle of shared responsibility for environmental protection by public bodies, private enterprises and the general public.
- 1.3 The Plan covers the three levels at which biodiversity may be considered, namely ecosystem diversity, species diversity and genetic diversity. It sets out strategies and actions under various themes and focuses on identifying specific measures. Key sectors which impact on biodiversity are also examined.
- 1.4 This National Biodiversity Plan has been developed in parallel with the National Heritage Plan which sets out the framework for the protection and enhancement of all aspects of Ireland's heritage, including the natural heritage, over the next five years. There was a strong interaction between the two drafting processes and the two Plans are complementary. The Biodiversity Plan focuses in detail on biological diversity and the measures required for its conservation and sustainable use.
- 1.5 The Plan has also been developed taking cognisance of the European Community Biodiversity Strategy. The Community Biodiversity Strategy covers areas within Community competence and is intended to be complementary to the strategies, programmes and policies of the Member States. The Community Biodiversity Strategy focuses on integrating biodiversity concerns into areas of Community policy and Community initiatives. It provides the overall framework for the development of Community policies and instruments in order to comply with the Convention and will be implemented primarily through the development of specific sectoral Action Plans (i.e. Action Plans on the conservation of natural resources, agriculture, fisheries, and economic and development co-operation).
- 1.6 The Plan also takes account of the fact that an overview of biodiversity in Ireland was provided in Ireland's National Biodiversity Report published in 1998. That Report also provides information on measures in place for the conservation and sustainable use of biodiversity in Ireland. The information contained in that report is generally not included here and the National Biodiversity Report and this Plan are companion documents.



1.7 From the biodiversity perspective, the all-Ireland context is of major importance and the process of preparing this Plan has benefitted from consultation with the Environment and Heritage Service in Northern Ireland. The Department of the Environment in Northern Ireland has recently published the report “Recommendations to Government for a Biodiversity Strategy” compiled by the Northern Ireland Biodiversity Group established in 1996 to assist Government in conserving biodiversity in Northern Ireland.

1.8 It was also agreed in principle there should be the widest possible participation in the development of the Plan. In order to ensure this, public notices were placed in the national press in July 1997 announcing the preparation of the Plan and inviting submissions from interested parties. Direct contact to invite submissions was also made with relevant organisations, third level institutions and NGOs, representative of both conservation and sectoral interests. Approximately 50 submissions were received (see Appendix 2). These were reviewed and have been taken into account together with relevant submissions made to the National Heritage Plan.

IRELAND’S NATIONAL BIODIVERSITY PLAN

OVERALL GOAL

The overall objective is to secure the conservation, including where possible the enhancement, and sustainable use of biological diversity in Ireland and to contribute to conservation and sustainable use of biodiversity globally.

OBJECTIVES

- Conserve habitat diversity, including all sites of special biodiversity importance.

- Conserve species diversity.

- Conserve genetic diversity, both wild and domesticated.

- Contribute to the conservation and sustainable use of biodiversity and to advancing other obligations of the CBD in the EU, regionally and internationally.

PRINCIPLES

- The conservation of biological diversity is essential for sustainable development, and for maintaining the quality of human life.

- Each form of biological diversity is unique, and of value in its own right.

- All sectors and actors are responsible for advancing the conservation of biological diversity in their respective areas.

- The ‘polluter pays principle’ and the ‘precautionary principle’ will be supported.



INTERNATIONAL CONTEXT

1.9 In 1992, the United Nations Conference on Environment and Development was held in Rio de Janeiro. Nearly 180 Governments were represented at the Conference. This testimony to the importance which our environmental concerns had assumed, resulted in the acceptance of the following:

- The Rio Declaration on Environment and Development - A Statement of Principles on the need to balance the protection of the environment with the need for sustainable development;

- The Convention on Biological Diversity;

- The Convention on Climate Change -which aims to stabilise concentrations of 'greenhouse gases' in the atmosphere at a level that will prevent dangerous man-made interference with the climate system;

- Agenda 21 - a plan which sets out non-binding recommendations on environmental, economic, and social issues, including the conservation of biological diversity;

- A Statement of Principles for the management, conservation and sustainable development of all types of forests.

BIOLOGICAL DIVERSITY

1.10 The biological diversity existing today is the result of some 3.5 billion years of evolution, involving speciation and extinction. It is the biological inheritance of the earth. Part of the daily lives of every one of us, it is fundamental to human existence and is essential to human survival. Biodiversity is the source of all food, much raw materials, and genetic resources for agriculture, medicine and development generally.

1.11 The Convention on Biological Diversity (CBD) defines 'biological diversity' as 'The variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems.' Thus biological diversity may be considered at three levels, ecosystem diversity, species diversity, and genetic diversity within species.

1.12 Estimates of the number of species on the earth vary from 5 to a 100 million, with 13 to 14 million believed to be the best estimate. Only about 1.75 million of the species that exist have been scientifically described. Even for these species, knowledge of their biology, ecology, genetics, or the functions they play in ecosystems is generally poor. Our scientific knowledge on groups of species varies considerably. Groups with which we are most familiar, such as mammals, birds, reptiles, amphibians, fishes and plants, account for only about 3%, of the estimated total number of species with most species belonging to other groups such as insects, fungi, arachnids, nematodes, viruses and bacteria. Knowledge of genetic diversity, which is of fundamental importance, is especially limited. Genetic diversity is based on variation between genes (i.e. in the functional units of heredity in organisms). It is important in that it provides the raw material of evolution, enabling change and adaptation in organisms. It is also critically important for the continuing ability of human society to derive social and economic benefits from biodiversity.



LOSS OF BIODIVERSITY

- 1.13 Species, habitats and ecosystems, the planet's whole natural heritage, is under an ever increasing threat. Many species and habitats are in decline and in some cases their future is endangered. In certain cases irreversible losses have already occurred. Many species have already become extinct and it is considered that impending extinction rates are many times greater than those of the past. The extinction of one species results in the irreversible loss of a unique suite of genetic adaptations that have been acquired typically over very long time scales of hundreds of thousands of years.
- 1.14 Undoubtedly human behaviour causes, directly and indirectly, much of the loss of biological diversity. Globally, the degradation of biological diversity is principally due to habitat destruction, the introduction of non-native species and overexploitation. The relative effects of these three factors varies in time and location. In Ireland today, habitat degradation and loss is the main factor eroding biodiversity.

SIGNIFICANCE OF THE CONVENTION ON BIOLOGICAL DIVERSITY

- 1.15 When the CBD was opened for signature at the United Nations Conference on Environment and Development in Rio in 1992, a record number of countries, over 150, including Ireland, and the European Community signed it. The CBD entered into force by 1993. By March 2001 there were 180 Parties to it. Ireland ratified it in 1996. (Signing a Convention does not normally have a binding effect on the State concerned. However, the State must refrain from acts which could defeat the object and purpose of the Convention. By ratifying a Convention, a State agrees to be bound by the Convention).



- 1.16 The CBD represents a watershed in the area of environment and development. It represents the adoption for the first time of a comprehensive rather than a merely sectoral approach to the conservation of the earth's biodiversity and to the sustainable use of biological resources. Previous treaties were limited to particular regions of the world or to the protection of particular types of habitats or groups of species.
- 1.17 The CBD stemmed from a recognition of the need for global action to conserve biological diversity and an awareness that existing international and regional conventions were not sufficient to meet this need. Discussions about the need for and likely form and content of the CBD had taken place for a good number of years prior to Rio. Also important in influencing thinking and progress were reports such as the 'World Conservation Strategy,' published in 1980, the Brundtland Report 'Our Common Future' published in 1987, and 'Caring for the Earth: a Strategy for Sustainable Living,' published in 1991.
- 1.18 The CBD recognises that biological diversity should be conserved for reasons of ethics, economic benefit and human survival.
- 1.19 The CBD encompasses what could be classed as traditional nature conservation, but it is broader than that. It specifically covers biological diversity at the genetic level. It also covers all ecosystems, including marine ones, and it deals with domesticated and cultivated breeds, etc. Such issues as access to genetic resources, sharing of benefits from the use of genetic resources, and access to and transfer of technology, including biotechnology, are included under the CBD.
- 1.20 The CBD operates at the international and the national level. The loss of biological diversity is worldwide and many of the richest areas of biodiversity are found in the least developed countries. It recognises this and consequently includes provisions for the transfer of resources, including financial resources, from developed to developing countries. Ireland, through its contribution to the restructured Global Environment Facility, which is the interim institution for funding under the CBD, plays its part in this respect.
- 1.21 The CBD requires Contracting Parties to take measures for the conservation and sustainable use of biological diversity in their home territories. One of the main obligations is that each Contracting Party develop national strategies or plans or adapt existing ones for the conservation and sustainable use of biological diversity.
- 1.22 The CBD is a framework convention. Most of its provisions are expressed as overall goals and policies. It does not contain lists or annexes of sites, habitats or species which must be protected. Each Contracting Party itself decides how to achieve the overall goals of the CBD and meet its various provisions.

IMPLEMENTATION OF THE CONVENTION

- 1.23 Implementation of the CBD is inherently integrative and cross-sectoral in character. It requires that biodiversity considerations be integrated into a wide range of policy areas, both at the international and the national level.
- 1.24 While the CBD was agreed in 1992, there is an ongoing process to further elaborate what is needed to implement it. Work is progressed by a number of means, with the ultimate responsibility for implementation resting with the Conference of the Parties (COP). The COP takes decisions which define further obligations which countries must fulfil as well as setting out what is required at the international level. The COP has adopted a thematic or “ecosystem approach” for implementation of the Convention as well as furthering consideration of specific articles. The thematic/ecosystem approach has entailed the adoption of programmes of work for forest biological diversity, marine and coastal biological diversity, agricultural biological diversity and the biological diversity of inland waters as the frameworks for applying the principles of the Convention to specific ecosystems.
- 1.25 A key means of measuring progress in the implementation of the Convention is through the analysis of national reports which Parties have to submit under the Convention. The first national reports were submitted to the fourth meeting of the COP in May 1998. Ireland submitted its first National Report to COP4, as did many other Parties.



OBJECTIVES OF THE CONVENTION

- 1.26 The objectives of the Convention on Biological Diversity are:
- the conservation of biological diversity;
 - the sustainable use of its components; and
 - the fair and equitable sharing of benefits arising from the use of genetic resources.
- 1.27 The Convention imposes many obligations for the conservation and sustainable use of biological diversity, including: in-situ conservation*, both inside and outside protected areas; ex-situ conservation**, impact assessment; identification and monitoring; sustainable use of ecosystems, species and other biological resources; adopting incentive measures for biodiversity; research and training; public awareness and education; policies and mechanisms for access to and the equitable sharing of benefits derived from genetic resources; policies and mechanisms for facilitating access to and transfer of technology; exchange of information; technical and scientific co-operation; access to and safe use of biotechnology; the provision of financial resources to achieve the objectives of the Convention nationally and the provision of additional financial resources to developing countries to enable them to meet their obligations under the Convention.

* In-situ conservation is defined in the Convention on Biological Diversity as meaning ‘the conservation of ecosystems and natural habitats and the maintenance and recovery of viable populations of species in their natural surroundings and, in the case of domesticated or cultivated species, in the surroundings where they have developed their distinctive properties.’

** Ex-situ conservation is defined in the Convention on Biological Diversity as meaning ‘the conservation of components of biological diversity outside their natural habitats.’



PREPARATION OF NATIONAL STRATEGIES OR PLANS UNDER THE CONVENTION

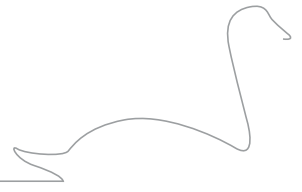
1.28 As indicated already a key provision of the Convention is the preparation of national biodiversity strategies or plans, and the integration of biological diversity concerns into other sectors. This obligation is contained in Article 6 of the Convention, which sets out the general measures for conservation and sustainable use.

- Article 6A requires each Contracting Party to ‘develop national strategies, plans or programmes for the conservation and sustainable use of biological diversity or adapt for this purpose existing strategies, plans or programmes which shall reflect, inter alia, the measures set out in this Convention relevant to the Contracting Party concerned.’

- Article 6B requires each Contracting Party to ‘integrate, as far as possible and as appropriate, the conservation and sustainable use of biological diversity into relevant sectoral or cross sectoral plans, programmes and policies.’

Chapter 2: Action For Biodiversity





INTEGRATING BIODIVERSITY INTO SECTORS

2.1 Conserving biodiversity depends to a major degree on the effective realisation of the principle that all sectors/actors participate appropriately in actions to promote biodiversity. The cross-sectoral integration of biodiversity considerations is therefore a major challenge addressed in the National Biodiversity Plan.

Sectoral Action Plans

2.2 At Government level, this means all Government Departments must ensure not only that their policies and actions do not damage biodiversity, but that they take a proactive role in enhancing biodiversity. A key means of achieving this will be the drawing up by each Department and relevant state agency of their own Biodiversity Action Plan in consultation with stakeholders and according to agreed guidelines. Departments and agencies will also seek to improve the generation and management of information on biodiversity and will include such information in the heritage inventories they are to prepare in accordance with the National Heritage Plan.

SECTORAL ACTION PLANS

A key component to implementing the National Biodiversity Plan will be the Biodiversity Action Plans drawn up by each relevant Department and agency. These Sectoral Action Plans will aim to ensure the conservation and sustainable use of biodiversity is actively pursued by each Government Department and agency.

Each Sectoral Plan will provide an overview of the Government Department's/agency's biodiversity responsibilities, the interactions (both positive and negative) between the Government Department's/agency's and sectors activities and biodiversity; and the value of biodiversity for the sector.

Each Departmental and agency Biodiversity Plan should aim to ensure the Department's or agency's activities, and that of the sector it is responsible for:

- minimise adverse impacts on biodiversity;
- eliminate significant adverse impacts; and
- encourage and promote beneficial effects on biodiversity.

Each Action Plan will include objectives and actions.

Each Action Plan will seek to encourage the sector to which it relates to play a proactive part in relation to biodiversity.

The Sectoral Biodiversity Action Plans will be subject to review after a period of five years.

Providing capacity in Departments for the integration of biodiversity

2.3 Clearly there is a need to assist Government Departments and agencies in developing competence and expertise in dealing with biodiversity issues in their own area of influence. Dedicated biodiversity units will be established to provide for the integration of biodiversity into the activities of relevant Departments and agencies.

2.4 The Department of Arts, Heritage, Gaeltacht and the Islands will continue to assist Departments in meeting their responsibilities in relation to biodiversity, with the assistance of an expanded Biodiversity Unit. This unit will inter alia produce guidelines for the development of sectoral action plans to ensure there is an understanding of the need for such plans and a consistency of approach in their development across sectors. Structures will also be put in place or enhanced to facilitate consultation and co-ordination between Departments, and to provide for external consultation with all interested parties (these are outlined in Chapter 3 on Implementation, Monitoring and Review).

Incorporating Biodiversity Provisions in all relevant legislation and plans

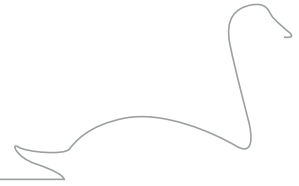
2.5 Apart from legislation directly related to biodiversity (see 2.9) a range of other legislation has implications for the conservation of biodiversity. Attention must be given particularly to legislation likely to have a major impact on biodiversity. It is necessary not only to ensure new legislation in these fields provides for biodiversity, but also to review, and if necessary revise, the most significant existing legislation. Relevant statutory agencies will be given obligations, as part of their statutory functions, to maintain biodiversity as appropriate.

2.6 A range of plans and programmes in various sectors may have consequences for biodiversity. At the overall level, the current National Development Plan provides that biodiversity considerations will be properly addressed at all appropriate stages. Under the National Development Plan significant resources are being allocated to programmes which are likely to benefit the environment generally and thus also biodiversity.

2.7 Financial instruments could potentially be valuable in contributing to the conservation and sustainable use of biodiversity and further consideration will be given to this issue.

ACTIONS

1. Relevant Government Departments and State agencies to prepare, with stakeholders, their own Biodiversity Action Plans in line with agreed guidelines to ensure and promote the conservation and sustainable use of biodiversity.
2. Improve generation and management of information on biodiversity within Government Departments and agencies.
3. Create biodiversity units or posts within relevant Government Departments and State agencies whose functions will include the preparation of biodiversity action plans within the framework of the National Biodiversity Plan.
4. Ensure all relevant plans and programmes and all new legislation, and key existing legislation, incorporates provisions requiring the conservation of biological diversity.



5. Ensure biodiversity continues to be fully addressed in the implementation of the operational programmes of the National Development Plan, and in the preparation of future National Plans (e.g. National Development Plan, National Sustainable Development Strategy) ensure the integration and enhancement of biodiversity will be a key consideration.
6. Consider the development of financial instruments/incentives to promote the conservation of biodiversity.
7. Establish a Biodiversity Unit in the Department of Arts, Heritage, Gaeltacht and the Islands to:
 - co-ordinate and support the delivery of the National Biodiversity Plan and the continuing response to the CBD;
 - support the preparation of the sectoral biodiversity plans; and
 - assist the work of the Biodiversity Forum.
8. Continue the role of the Inter-Departmental Biodiversity Steering Group and expand to oversee ongoing exchange of information, co-ordination and collaboration in respect of biodiversity in the context of the implementation of the National Biodiversity Plan and furtherance of the objectives of the CBD.
9. Establish a specific Biodiversity Forum, representative of all stakeholders, to provide a mechanism for consultation with, and input from, all interested parties.

Providing for Biodiversity at Local Level

- 2.8 It is essential that action is also taken at the local level for the conservation of biodiversity. Local Authorities have potentially a key role here being in the best position to promote heritage conservation generally into local plans and programmes. To provide for the conservation and sustainable use of biodiversity at the local level, two key measures will be put in place, namely, the preparation and adoption of Local Biodiversity Action Plans and the designation of Natural Heritage Officers in all Local Authorities. The primary functions of these officers will be to promote and ensure the conservation of the natural heritage at the local level. The principal means of achieving this will be the formulation of the Local Biodiversity Plan by each Local Authority which will normally be prepared as part of integrated Local Heritage Plans. The initial focus of Local Biodiversity Plans will be on the identification and assessment of the local biodiversity resource.

ACTIONS

10. Each Local Authority to prepare a Local Biodiversity Plan in consultation with relevant stakeholders.
11. Each Local Authority to designate a contact officer for natural heritage conservation matters in its area.

LEGISLATION

2.9 The principal biodiversity related legislation is that concerned with nature conservation. The most important such legislation is the Wildlife Act, 1976 as amended by the Wildlife (Amendment) Act, 2000, and the European Communities (Natural Habitats) Regulations, 1997. While the Wildlife Act, 1976 provided a fairly adequate legislative base for nature conservation, it has been considerably strengthened by the Wildlife (Amendment) Act, 2000, which was enacted in December 2000. The principal objectives of this Act are shown below. In this respect there is an absence of a specific legislative basis for the establishment and management of National Parks which needs to be addressed.

2.10 Various other legislation, particularly in, though not limited to, the environmental field contributes directly and indirectly to the conservation of biological diversity. The Planning and Development Act, 2000 and the EIA Regulations are particularly important and include provisions which are directly concerned with the protection of the natural heritage and biodiversity.

WILDLIFE (AMENDMENT) ACT, 2000

The principal objectives of the Wildlife (Amendment) Act, 2000 are to:

- provide statutory protection for Natural Heritage Areas (NHAs);
- improve a number of measures, or introduce new ones, to enhance the conservation of wildlife species and their habitats;
- enhance a number of existing controls in respect of hunting, which are designed to serve the interests of wildlife conservation, and introduce new powers to regulate commercial shoot operators;

- ensure or strengthen compliance with international agreements and, in particular, enable ratification of CITES and the African-Eurasian Migratory Waterbirds Agreement (AEWA);
- introduce statutory protection under wildlife legislation to geological and geomorphological sites;
- increase substantially monetary fines for contravention of the Wildlife Acts and introduce prison sentences in addition to those fines;
- broaden the scope of the Wildlife Acts to comprehend all species, including fish and aquatic invertebrates (except specified commercial marine species), which heretofore were excluded;
- enable the Minister to act independently of forestry legislation (e.g. in relation to the acquisition of land by agreement);
- strengthen the protective regime for SACs by ensuring that protection will in all cases apply from the time of notification of proposed sites; and
- give specific recognition to the Minister's responsibilities in regard to promoting the conservation of biological diversity, in the context of Ireland's commitment to the UN Convention on Biological Diversity.



- 2.11 A number of species are in a very precarious state in Ireland (e.g. Red Data Book species such as the corncrake and marsh saxifrage). A review will be undertaken to determine if it would be appropriate and feasible to introduce specific legal provisions to provide for the conservation of species that might otherwise face extinction.
- 2.12 The conservation of biological diversity is now a key concept goal globally and one which Ireland has endorsed by ratifying the CBD. The Government has decided it was important and proper to give explicit recognition to the conservation of biological diversity in the relevant national legislation and it is now a statutory function of the Minister for Arts, Heritage, Gaeltacht and the Islands. Provisions concerning the conservation of biological diversity have also been included in other relevant legislative codes which have been drafted since Ireland's ratification of the CBD.

ACTIONS

- 12.** To review continuously the adequacy of wildlife legislation in furthering the objectives of strategies for biodiversity.
- 13.** Introduce legislation to provide a legal basis for National Parks (and other heritage properties) and, if necessary, introduce a National Parks and Heritage Properties Bill.
- 14.** Review the need for legislation to provide additional conservation measures for a limited number of species which are of particularly serious conservation concern.

PROTECTED AREAS

- 2.13 The establishment of protected areas is very important for the conservation of biodiversity. About 10% of Ireland is considered to be of prime importance for nature conservation and is included in the protected areas programme. The framework for site protection in Ireland, both in terms of what should be protected and how it should be protected, is determined by national policy and by EU policy. Most sites of special ecological importance will require or allow human intervention in order to maintain their ecological interest. Protection through State ownership is important and appropriate in some cases. The conservation of protected areas is not achievable solely through regulation. Economic incentives, as are provided under REPS, or where appropriate compensation for losses incurred, are also required in order to ensure the biodiversity interest of protected areas is maintained or enhanced. It is also essential to involve interested parties and especially farmers and others who are likely to be directly affected.
- 2.14 In recent years, very considerable effort and progress has been made in establishing a comprehensive network of conservation areas in Ireland. The introduction of Special Areas of Conservation (SACs) in particular represents a fundamental advance for the conservation of biodiversity in Ireland.

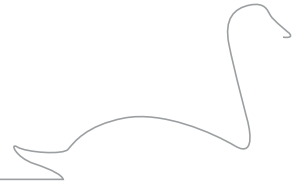


While the SAC programme is at an advanced stage, the task is to finalise the establishment of SACs and to ensure the sites are appropriately managed and effectively conserved in the long term. The network of sites of European importance (SACs/SPAs) will be complemented by the establishment, including formal designation and protection, of a network of nationally important sites (Natural Heritage Areas). Monitoring programmes are also required for all protected areas to ensure their long-term conservation.

ACTIONS

- 15.** Review previously proposed Natural Heritage Areas and designate as appropriate under the Wildlife (Amendment) Act, 2000.
- 16.** Elaborate and publish a framework for the selection and designation of future Natural Heritage Areas, including sites of geological and geomorphological importance, taking into account the views of interested parties.
- 17.** Complete identification and notification of SACs and SPAs, their submission to the European Commission and formal designation.
- 18.** Provide advice and prepare and issue Guidelines on the Conservation of SACs, SPAs, NHAs and other protected areas to local authorities and other authorities.
- 19.** Continue the programme of acquisition, agreement to, and designation of a representative series of Nature Reserves.
- 20.** Prepare and implement site specific conservation plans and other plans (e.g. Commonage Framework Plans) with particular reference to Natura 2000 sites, NHAs, Nature Reserves and National Parks in consultation with affected landowners and the public.
- 21.** Continue to provide compensation for farmers and other landowners for losses incurred in managing their lands in a manner which is compatible with the conservation requirements of designated sites.
- 22.** Continue or put in place further measures, including appeals procedures, to provide for consultation with, and the participation of, those affected by existing and future protected areas.
- 23.** Establish a comprehensive programme to monitor the condition of protected areas.
- 24.** Review effectiveness of legislation, policies, practices and mechanisms for site safeguards.





SPECIES CONSERVATION

- 2.15 While the actions set out in other sections of this Plan will contribute, specific measures are also required to provide for adequate conservation of species.
- 2.16 One fundamental tool required to properly underpin appropriately targeted species conservation programmes is the adoption of Red Data Books. The ultimate goal is to have Red Data Books - or other appropriate assessments of the conservation status of taxa - for most groups of organisms occurring in Ireland. However, this objective cannot be realised immediately, not least because of the considerable inventory and monitoring work which is required for many taxa before we are in a position to undertake sound scientific assessments of their conservation status.
- 2.17 To date, targeted conservation programmes or measures have been developed for a few individual species in Ireland. A number of species are known to be endangered in Ireland, many more species have declined, and a number have already become extinct. Specific Species Action Plans will be developed to provide for the conservation of the species of highest conservation concern.

ACTIONS

- 25.** Prepare & periodically revise Irish Red Data Books (or similar assessments) for important species groups, in collaboration with Northern Ireland authorities.
- 26.** Identify species of highest conservation concern in Ireland and prepare, and periodically revise, Species Action Plans for them.
- 27.** Encourage the Gardaí and Customs officers to play an enhanced role in enforcing wildlife legislation, through, among other actions, the provision of specific training and guidance.

Alien Species

- 2.18 Globally, alien species and the threats they pose to biodiversity are an increasing cause of concern. It is not only species per se, which may threaten biodiversity, alien genotypes and genetically modified organisms are also a problem. Species may be deliberately imported (either directly into the wild, or into confined environments from which they subsequently escape or, in some instances, are released, into the wild) or they may be introduced accidentally (e.g. along with imported goods such as timber, with plants etc. brought into garden centres, in the marine environment as a result of shipping via ballast water or as fouling organisms).
- 2.19 It is necessary to draw up a strategy to prevent, or at least minimise, and control future introductions (both deliberate and accidental) which may pose a risk to biodiversity. All alien species should be considered to be a potential threat to native biodiversity. Consequently, unless there is clear evidence that such is not the case, all deliberate introductions will require a risk assessment before their introduction into the wild in Ireland will be authorised. It is also necessary to document and review introductions that have already occurred and the impacts these have had, and continue to pose to, biodiversity. Based on this review, a strategy will be prepared to reduce, or eliminate, insofar as possible, adverse impacts of previously introduced alien species.
- 2.20 There would be considerable benefits, if alien species were addressed at an all-Ireland level.
- 2.21 The globalisation of the world economy, and within the EU, the creation of a common market, has further added to the problem alien species pose to biodiversity. It is necessary to ensure relevant laws and instruments, including those concerned with trade, - both within the EU and internationally - support the conservation of biodiversity and develop specific international instruments to address alien species.



HABITAT AND ECOSYSTEM CONSERVATION

2.22 Strategies and actions for the conservation of habitats and ecosystems are of crucial importance - second only to sectoral integration of biodiversity needs - in providing for the conservation of biological diversity. The most important means of delivering habitat conservation is through the establishment of protected area networks (see 2.13 above). Many other actions needed to conserve habitats and ecosystems are set out in other sections as appropriate, particularly under 'Countrywide Conservation' and the four ecosystem chapters.

2.23 Considerable survey and inventory work has been undertaken on natural habitat types in Ireland. However, there are still gaps in knowledge. A programme will be instigated in relation to threatened or other key natural habitat types which have not been previously surveyed or for which surveys are incomplete. This programme will involve surveys of the habitats concerned, an assessment of their conservation status, and consideration of potential protection measures and the costs involved.

ACTIONS

28. Prepare strategies, in consultation with Northern Ireland, to control introduced species and to prevent, or minimise, future (accidental or deliberate) introductions of alien species which might threaten biodiversity. Unless clearly safe, all deliberate introductions into Ireland of alien species will require a risk assessment.
29. All public bodies will endeavour to use native species, landraces and breeds and the public will be encouraged to do so.
30. Ireland will seek to ensure that relevant laws and instruments, including those concerned with trade, - both within the EU and internationally - do not contribute to the problem posed by alien species and Ireland and will support the development of specific international instruments to address alien species.

ACTIONS

31. Initiate a programme to survey and assess the key natural habitat types which have been inadequately studied. An indicative list of the habitats to be covered by the programme is given in Appendix 3.



COUNTRYWIDE CONSERVATION

2.24 While protected areas (NHAs, SACs, SPAs, etc.) cover a significant area, most of the land in the country - in the region of 90% - lies outside of this network. The protected area network essentially comprises sites which are of national or European importance. Outside of this network, there are many sites or features which are of local nature conservation importance - though information on such areas is frequently limited or non-existent. Apart from such sites of national or local biodiversity importance, it is also necessary to maintain, and where possible enhance, in so far as possible, biodiversity in the broader countryside irrespective of how intensively used it is.

Planning Legislation

2.25 Amongst the most important means of providing for the conservation and sustainable use of biodiversity in the wider countryside is the planning system. A number of recent developments in planning legislation, in particular the Planning and Development Act, 2000, provide improved measures for the conservation of biodiversity. The new Planning and Development Act provides that Development Plans must have mandatory objectives for the conservation of European and nationally important sites and for the conservation of biodiversity in general.

Activities of other authorities

2.26 Many activities and management operations undertaken by various State bodies, particularly by Local Authorities are relevant to biological diversity. Apart from ensuring such activities do not adversely affect or minimise their impacts on biodiversity such activities, in many circumstances, may afford opportunities not only to maintain but also to proactively enhance the status of biodiversity. (e.g. planting of native species alongside roads; the adoption of biodiversity friendly management practices).

Hedgerows

2.27 Field boundaries, mainly hedgerows, are a particularly prominent feature of the Irish countryside and provide important habitats for a variety of species. Hedgerows have suffered significant losses. Current legal controls for their protection are limited. For the future, the overall goal should be to have no net loss of the hedgerow resource. The current REPS scheme is addressing hedgerow conservation by introducing new specifications on the management of hedges for biodiversity. REPS planners are also being trained in this more enlightened approach. These new measures are welcome and it is imperative this new approach is put into practice "on the ground" by all those involved in REPS.

ACTIONS

32. Review options on regulation of hedgerow removal and produce guidelines on hedgerows and biodiversity.
33. Ensure the new approach to hedgerow management for wildlife under the REPS scheme is implemented throughout the country, and that penalties for any removal of hedgerows are applied.
34. The Department of Arts, Heritage, Gaeltacht and the Islands will develop Guides to Best Practice with Local Authorities and other relevant bodies to safeguard biodiversity. These will, inter alia, normally require such bodies to use native species and seed stock in their tree planting programmes and to employ other environmentally beneficial management practices (e.g. cease using herbicides).



CONSERVATION AND SUSTAINABLE USE OF GENETIC DIVERSITY

2.28 A basic component of biological diversity is genetic variation within and between populations of species. The ability of populations and species to adapt to changing environmental conditions and therefore to survive and evolve depends on genetic variation. Strategies for the conservation and sustainable use of biological diversity must operate at this level in addition to the more traditional levels focusing on species and habitats. Genetic resources may be divided into two categories - genetic resources of wild species and domesticated genetic resources which are used for agriculture and forestry, etc. Knowledge of genetic diversity is better for cultivated plants and domesticated animals than for wild species.

Indigenous Species in the Wild

2.29 Little is known of the genetic resources which exist in Ireland, particularly with regard to indigenous species in the wild. Such diversity is at least potentially under threat from the factors which degrade biodiversity generally and in particular from introductions of alien species and of exotic stock of native species. The issue of the conservation and sustainable use of wild genetic diversity is very much in the initial stages of development and existing specific actions are limited. There is a need to devote greater attention to this issue.

Conservation of Genetic Resources for Food and Agriculture, and Forestry

2.30 Genetic resources are a crucial input for both farming and food production. Maintaining the range of genetic diversity of wild relatives of crop plants is also important for agriculture. In Ireland a long-term commitment is required to ensure that important endangered genetic resources are conserved and that existing collections are properly characterised, stored and maintained either in-situ or ex-situ as appropriate. The problems that are readily identifiable in relation to plant and animal genetic resources for food, agriculture and forestry in Ireland are typical of the problems identified in many other countries. For example, there is a need for co-ordination and many of the conservation activities need to be improved. There is a need to review the current situation and to bring forward a strategy for the conservation and sustainable use of genetic resources for food, agriculture and forestry. There would be considerable benefit in working in co-operation with Northern Ireland.

2.31 In the case of all aspects of genetic diversity - both wild and domesticated, there is a need to review the legislative situation.



ACTIONS

35. Establish a national advisory committee with the participation of stakeholders in Ireland to

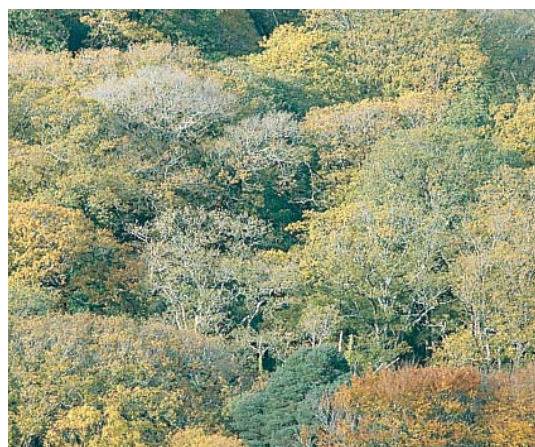
(1) report on a co-ordinated programme on the conservation and utilisation of genetic resources for food, agriculture and forestry, including the need to:

- Characterise and inventory genetic resources for food, agriculture and forestry both in-situ and ex-situ;
- Identify genetic resources in greatest danger of extinction and co-ordinate appropriate preservation initiatives;
- Ensure what is already held in existing collections is maintained; and
- Promote activities to assist the conservation of genetic resources for food, agriculture and forestry; including through on-farm conservation;

(2) examine the need for, and where required propose strategies for the conservation and sustainable use of wild genetic diversity:

- Undertake genetic characterization and analysis of genetic variability for priority wild species;
- Conserve wild genetic resources ex-situ; and
- Support species conservation and recovery programmes for certain priority species.

36. Review the legislative requirements for the protection and maintenance of genetic diversity.



Access to Genetic Resources

2.32 The third primary objective of the CBD concerns access to genetic resources and the sharing of benefits. A national Strategy on Access to Genetic Resources will be drawn up. It will address the access question on two fronts:

- (a) the situation pertaining to genetic resources, both in-situ and ex-situ, in Ireland and access to these; and
- (b) the situation pertaining to the use of foreign genetic resources by companies, etc. based in Ireland and the basis on which they presently gain access to such resources.

ACTIONS

37. Undertake a review and prepare a comprehensive Strategy on Access to Genetic Resources, with appropriate consultation, nationally and internationally.

BIOSAFETY - GENETICALLY MODIFIED ORGANISMS (GMOs)

- 2.33 The handling, use and release of Living Modified Organisms resulting from modern biotechnology poses a potential threat to biodiversity. The CBD addressed this on two fronts, by requiring Parties to take measures nationally to regulate or control the risks associated with the use and release of such LMOs and committing Parties to address the issue of trans-frontier movement of such LMOs.
- 2.34 In order to address the latter a protocol was negotiated and adopted under the Convention, which put in place for the first time legally binding procedures to deal with transboundary movements of LMOs. The Cartagena Protocol on Biosafety was adopted in January 2000 and Ireland signed the Protocol when it was opened for signature in May 2000. Ireland is committed to ratifying the Cartagena Protocol on Biosafety as soon as possible.
- 2.35 Measures so that the use of LMOs within Ireland does not threaten biodiversity are already in place in national legislation which reflects relevant EC law.

ACTIONS

- 38.** Ireland supports the Cartagena Protocol on Biosafety and will ratify it in a timely manner, taking account, inter alia, of progress in relation to necessary legislative measures at EU level.
- 39.** Through its participation in the Cartagena Protocol, Ireland will continue to support capacity building for biosafety in developing countries.

KNOWLEDGE: IDENTIFICATION, MONITORING AND RESEARCH

- 2.36 Knowledge is fundamental to the conservation and sustainable use of biological diversity. Virtually all international instruments concerning biodiversity, including the CBD, contain obligations where knowledge is required in order to comply with obligations on ecosystems and habitats, species and genetic diversity. Biodiversity knowledge requirements entail identification, monitoring, research, and the maintenance and organisation of data.
- 2.37 While various programmes have been carried out to date, there are many gaps in our knowledge and much remains to be done in relation to survey, inventory and research and to ascertain and document the biodiversity that exists in Ireland. Some groups are poorly known and many species occurring in Ireland remain undocumented. This requires surveys and inventories to determine the distribution, abundance, conservation status, conservation importance, and changes in status of species and habitats, including protected sites. While completing basic inventories on all species groups and habitats in Ireland is a very onerous task, it is so fundamental to the conservation of biodiversity that this must be the long-term goal.
- 2.38 Various activities related to biodiversity knowledge - whether identification, monitoring or research - are undertaken by numerous organisations and individuals in Ireland. There is a need to establish what work is already being done and by whom, to determine what needs to be done and to prioritise actions and assign responsibilities.
- 2.39 The Department of Arts, Heritage, Gaeltacht and the Islands and a number of other organisations hold data on biodiversity or related factors (e.g. on soils, climate, agriculture systems). Such data needs to be made more accessible and linked to other databases.



2.40 The ability and capacity to identify organisms is essential in order to document Ireland's biodiversity and for many groups this requires specialist taxonomists. It is essential to significantly strengthen the capacity to undertake taxonomic work in Ireland. The Natural History Museum has a key role in this context.

2.41 A wide scientific community is involved with research on, or related to, biodiversity. There is a need to encourage the scientific community at large to focus their research efforts on biodiversity issues. In order to do this a specific national biodiversity research programme will be initiated. A specific programme will also be put in place to encourage students to undertake studies relevant to the conservation of biodiversity.

ACTIONS

- 40. Prepare a prioritised and co-ordinated programme of inventories, surveys and research, and implement the first phase of the programme. Priority will be given to endangered or threatened habitats and species about which little is known, or which are of special conservation importance.
- 41. Establish an Irish Biodiversity Database as part of the Department of Arts, Heritage, Gaeltacht and the Islands Heritage Archive and provide links to other relevant databases.
- 42. Put in place a national biological data management system to be co-ordinated by a National Biological Recording Centre.
- 43. Strengthen the capacity of relevant State institutions to undertake work to broaden and consolidate our knowledge of wildlife species and to maintain biological records. Capacity building for taxonomic work will be a key focus.

- 44. Establish a postgraduate studentship programme for research specially focused on the conservation and sustainable use of biological diversity and put in place a programme to encourage the scientific community to focus their research efforts to a greater extent on biodiversity.

PUBLIC AWARENESS AND EDUCATION

2.42 The successful conservation and sustainable use of biodiversity in Ireland depends on the degree of public support it receives. While State agencies, Local Authorities and non-government organisations have important roles, public support and co-operation are essential for the conservation of biodiversity.

2.43 To promote a greater understanding of the importance of biodiversity and the objectives of the convention, there is a need to develop a targeted education and awareness strategy. Actions set out in the National Heritage Plan relevant to public awareness and enjoyment of the heritage generally will also contribute to a greater appreciation of biodiversity. Two specific measures will involve the development of a national Clearing House Mechanism as required under the CBD and the provision of financial support to relevant NGOs to promote awareness and education in respect of biodiversity. (The Clearing House Mechanism, which comprises a network of national and international focal points, is an Internet-based network to promote technical and scientific co-operation and the exchange of information on biodiversity).

ACTIONS

- 45. Develop a targeted education and awareness strategy for the specific purpose of promoting the objectives of the Convention on Biological Diversity in Ireland.
- 46. Develop an Internet-based national Clearing House Mechanism.

EU, REGIONAL AND INTERNATIONAL

2.44 Action is also required for the conservation of biodiversity at the international level. This requires that Ireland participate in international endeavours for the conservation of biodiversity and provide appropriate support for the conservation of biodiversity in other countries. Measures at European Union level are of particular significance.

Participating in and fulfilling international endeavours in Ireland

2.45 Ireland is already a Party to most major international and regional agreements concerned with the natural heritage and biodiversity. It is necessary for Ireland to have a continued involvement with these Conventions and to ratify the small number of biodiversity-related Conventions whose ratification by Ireland is still outstanding. Ireland will also pursue the adoption of other suitable international agreements as appropriate.

ACTIONS

- 47. Ireland will implement fully the CBD and relevant biodiversity-related conventions, etc. to which Ireland is already a Party (e.g. CBD, CITES, Ramsar, Bonn, Berne, Bats Agreement, International Convention for the Regulation of Whaling, World Heritage Convention).
- 48. Ratify the African-Eurasian Migratory Waterbirds Agreement (AEWA).
- 49. Seek the adoption by the European Union and the subsequent extension to Irish waters of the provisions of the Agreement on the Conservation of Small Cetaceans in the North and Baltic Seas (ASCOBANS).
- 50. Ensure the required measures are taken to enable the State to ratify Annex V to the 1992 OSPAR Convention on the Protection and Conservation of the Ecosystems and Biological Diversity of the Maritime Areas.

- 51. Ireland will seek to ensure, in co-operation with other relevant states, that the Greenland White-fronted Goose Conservation Plan is finalised, adopted and implemented.

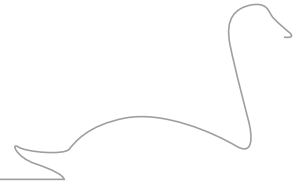
Contributing to the Conservation and Sustainable Use of Biodiversity Overseas

2.46 Wildlife and biodiversity is being lost or degraded in many parts of the world and Ireland must play its part in seeking to prevent and limit this damage. Ireland will do this principally by supporting the CBD process, re-orientating development aid co-operation to cater for biodiversity along with established goals, and by providing financial support - on a bilateral as well as a multilateral basis - for the conservation and sustainable use of biodiversity.

ACTIONS

- 52. Biodiversity will be made a specific objective of ODA, and all support to, and co-operation with, developing countries shall take account of biological diversity.
- 53. Ireland will provide specific funding for biodiversity projects in developing countries and countries with economies in transition and for work which contributes to the identification, assessment and monitoring of the state of biodiversity at the global scale (€6.35 million (£5 million)).
- 54. Ireland will support the development of international law in accordance with the CBD.





European Union

2.47 The EC Biodiversity Strategy (adopted 1998) and the four specific “sectoral” Biodiversity Action Plans, which were adopted in 2001, focus on the integration of biodiversity into EC sectoral policies and are the key measures for biodiversity conservation in the Community. The Birds and Habitats Directives are also important. Ireland will continue to work with other Member States and the Commission to secure the conservation of biodiversity across all of the Community.

ACTIONS

- 55. Continue to work with Member States and the Commission to secure the conservation of biodiversity across the Community.
- 56. Support the implementation, and future development, of the EC Biodiversity Strategy and other community initiatives to ensure they are successful and widely supported in providing for the conservation and sustainable use of biodiversity.

TERRESTRIAL ECOSYSTEMS: AGRICULTURE

2.48 Agriculture is the main land use in Ireland. As such it has been, and continues to be, the most important factor affecting terrestrial biodiversity in this country. Agriculture may have both positive and negative impacts on wildlife and biodiversity. Much of the most important land for biodiversity is that which has not been intensified. In order to conserve biodiversity, as well as for other social and economic reasons, it is necessary to maintain and support extensive farming systems. It is necessary not only to minimise adverse effects on biodiversity due to agriculture, but also to ensure agriculture makes a positive contribution to the conservation and sustainable use of biodiversity. Key issues relate to (a) the role of protected areas; (b) reducing and eliminating damaging effects of agriculture in general (e.g. overgrazing, water pollution); (c) encouraging and supporting farming which is compatible with biodiversity; (d) providing supports for the conservation, including the enhancement, of specific biodiversity habitats/features.

2.49 Protected areas (particularly NHAs, SACs, SPAs,) make a significant contribution to ensuring the conservation and sustainable use of biodiversity in the agricultural ecosystem.

2.50 Major efforts are under way to deal with the serious problem of overgrazing by sheep, particularly in disadvantaged areas in the upland parts of Counties Mayo, Galway, Donegal and Kerry. As a consequence of headage payments to farmers, sheep numbers increased considerably and are in excess of sustainable densities. Habitats most affected are uplands, peatlands, heaths and coastal habitats with consequent adverse impacts on flora and fauna. As well as direct impacts, overgrazing has caused adverse effects in aquatic ecosystems due to erosion of peat. This problem is being resolved, inter alia, by the preparation of detailed



Commonage Framework Plans under the joint supervision of the Department of Arts, Heritage, Gaeltacht and the Islands and the Department of Agriculture, Food and Rural Development. It is expected that cross-compliance and appropriate monitoring will further contribute to adequately addressing the overgrazing problem.

- 2.51 EU Council Regulation 1257/1999 on support for rural development from the European Agricultural Guidance and Guarantee Fund (EAGGF) and the Rural Environmental Protection Scheme (REPS), as potentially important instruments for harmonising farming with biodiversity, are important and welcome developments from the point of view of the conservation and sustainable use of biodiversity. A number of measures in relation to monitoring, evaluation and refinement of the scheme will be put in place in order to ensure that the maximum possible benefits accrue to biodiversity and the environment generally.
- 2.52 A good example of this harmonisation already exists in the form of Measure A of REPS, which provides for compensation payments for the conservation of target lands (i.e. SACs, SPAs, NHAs). Measure A is compulsory for all REPS participants with land in target areas. Also, the current REP Scheme includes one element that was not part of the previous Scheme, namely a provision for farmers with non-commonage land in a target area who are not applying to participate in the general REPS Programme. They may farm the target area land to the REPS specifications for such land and be paid the appropriate REPS rate. They do not have to put their entire holding into REPS but they must apply Good Farming Practice on the entire holding.
- 2.53 Farmers participating in all of the following direct payment schemes will be required to follow Good Farming Practice:
- Arable Aid
 - Disadvantaged Area Compensatory Allowances Scheme
 - Installation Aid Scheme
 - Livestock Premia Schemes
 - On-Farm Investment Schemes
 - Rural Environment Protection Scheme
 - Scheme of Early Retirement from Farming (transferees)
-
- 2.54 Good Farming Practice sets down obligations in respect of the following measures:
- Nutrient Management
 - Grassland Management
 - Protection of Watercourses and Wells
 - Maintenance of Wildlife Habitats
 - Maintenance of External Farm Boundaries
 - Careful use of Pesticides and Chemicals
 - Protection of Features of Historical and Archaeological Interest
 - Maintenance of Visual Appearance of the Farm and Farmyard
 - Maintenance on the farm of specified Records
 - Animal Welfare
 - Hygiene
 - Non use of prohibited substances and responsible use of animal remedies
-
- 2.55 The introduction of a code of Good Farming Practice, which will be compulsory for the vast majority of farmers, is recognised as a significant further step towards the integration of farming with the preservation of biodiversity and the natural environment.
- 2.56 These are practical examples of the contribution, through REPS and other means, that agriculture can make to the conservation and sustainable use of biodiversity. The continuation of this holistic approach is fundamental to the future success of this Plan.



ACTIONS

57. Support policies and measures to adapt support mechanisms for extensive farming systems at EU and other levels which will preserve and promote bio-diversity and be environmentally sensitive.
58. The Department of Agriculture, Food and Rural Development will seek, in any future revisions of REPS, to ensure the conservation and sustainable use of biodiversity is a priority.
59. The Department of Agriculture, Food and Rural Development will engage in full and ongoing consultation with other parties including the Department of Arts, Heritage, Gaeltacht and the Islands, in relation to REPS and other biodiversity related issues and will take cognisance of environmental issues outside the immediate remit of the Department of Agriculture, Food and Rural Development when schemes are being devised or reviewed.
60. The Department of Agriculture, Food and Rural Development will set up a systematic evaluation process for REPS.
61. Control overgrazing by the completion and implementation of the strategy involving the preparation of Commonage Framework Plans and by the implementation of other appropriate measures.
62. Establish a special operational biodiversity unit within the Department of Agriculture, Food and Rural Development to oversee biodiversity conservation in REPS and other programmes.
63. Enhance training in ecology and biodiversity conservation in the agricultural sector by for example, implementing a biodiversity awareness strategy for farmers, the provision of appropriate training for REPS planners and ensuring that modules on biodiversity are taught as part of courses in agricultural colleges and other relevant training schemes.
64. Ensure adherence to the guide on Good Farming Practice.

TERRESTRIAL ECOSYSTEMS: FORESTS

Introduction

- 2.57 The total area of land under forests in Ireland is relatively small. Total forest cover at the end of 1995 was 8% of the land area. An increase in the forest estate to 17% of the land area by 2030 is planned. The predominant reliance on non-native conifer species in the afforestation programmes this century has had major implications for biological diversity in Ireland. For the planned increase in forestry to be sustainable, account will have to be taken of biodiversity conservation needs in all stages of the forestry cycle, whether planning, planting or management. In particular, it involves preventing any damage to the most important sites for biodiversity, avoiding damage to other sites, habitats and features which are important, and planting and managing forests in general so as to maximize as far as practicable their value for biodiversity. A further key issue relates to the conservation of the remaining semi-natural woodlands.
- 2.58 Maintenance and enhancement of biodiversity is being pursued within the context of Sustainable Forest Management (SFM), of which biodiversity forms an essential component.

Plantation Forests

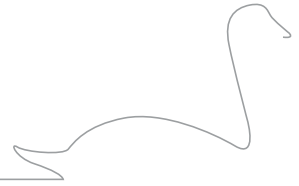
- 2.59 While the original forests of Ireland were mainly broadleaf, non-native conifer species now dominate. In 1996, the target for broadleaf planting was set at 20% of total annual afforestation - a target which is inadequate for the conservation of biodiversity. Given the low percentage of broadleaf species in the forest estate, the value of such forests for biodiversity, and the major afforestation which is currently underway, it is essential to increase the percentage of broadleaf species used in the afforestation programme. This will be done on a phased basis, with a new target for planting of broadleaf species being set at 30%. An increase in the proportion of planting being done using native seed stock is also needed.

- 2.60 It is essential to continue with the controls which prevent damage to protected areas, whether of European or national importance. Outside of ecologically important sites, in the management of existing forests and the planting of all new ones, opportunities to maintain and enhance biological diversity will be pursued through a number of measures. Various forestry guidelines, including specific new ones on forestry and biodiversity, and adequate research to underpin forest and biodiversity policy and practices are amongst the most important measures.
- 2.61 A specific biodiversity woodland scheme will be introduced. Two existing schemes designed to promote the establishment of woodlands will be adapted in order to enhance the role of these schemes for the conservation of biodiversity.
- 2.62 In order to provide for sustainable forestry, relevant legislation, policies and plans must provide appropriate responsibilities for the conservation and sustainable use of wildlife and biodiversity.

ACTIONS

- 65.** Increase the target for total annual afforestation consisting of broadleaf species to achieve a target of 30% within five years.
- 66.** Encourage the use of local provenances of native species and continue to support the nursery propagation of such material.
- 67.** Introduce guidelines on forestry and biological diversity, and ensure their implementation as a mandatory condition of grant aid and revise other guidelines to enhance their role for biodiversity conservation.

- 68.** Expand the existing forest and biodiversity research programme, including in association with COFORD, to obtain information on the biodiversity that plantation forests and native woodlands support.
- 69.** Continue to adapt the Forest Inventory and Planning System (FIPS) to ensure the conservation and enhancement of forest biodiversity, including the completion of the Irish Forests Soils Project.
- 70.** Develop an Indicative Forest Strategy approach, incorporating FIPS, GIS and the Forests Soils Project, to match the ‘right tree in the right place.’
- 71.** The Forestry Inspectorate within the Department of the Marine and Natural Resources will encourage and promote the conservation and enhancement of biodiversity.
- 72.** Adapt the Amenity Woodland Scheme and the Urban Woodland Scheme to provide an enhanced role for the conservation of biological diversity.
- 73.** Continue to implement and enforce EU controls relating to (a) the marketing of forest reproductive material and (b) forest plant health.
- 74.** Review and upgrade the forest legislation as appropriate to inter alia provide for the conservation and sustainable use of biological diversity and Coillte will be provided with new biodiversity responsibilities.
- 75.** Provide for the conservation and sustainable use of biodiversity in all stages of the forest cycle, whether planning, planting or management, through the Code of Best Forest Practice which has been developed in conjunction with the Irish National Forest Standard and Environmental guidelines.



Native forests

2.63 Native woodlands are the rarest of the major habitat types in Ireland. It is necessary to increase the area of semi-natural woodlands through the creation of new woodlands. A comprehensive inventory of broadleaved woodland in Ireland is also required.

ACTIONS

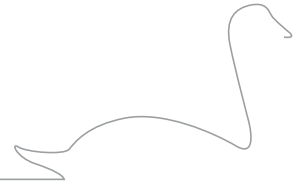
- 76.** Introduce a Biodiversity Woodland Scheme. This Native Woodland Scheme will comprise two separate elements:
- Native Woodland Establishment - Aimed at encouraging the development of new native woodlands on both isolated greenfield sites and sites contiguous to existing woodland cover. Target of 15,000 ha of new native woodland set, plus 1,000 ha of riparian woodland.
 - Native Woodland Conservation - Aimed at protecting and enhancing existing native woodlands through appropriate proactive silvicultural management. Target of 15,000 ha of existing native woodland (plus 1,000 ha of existing riparian woodlands) will be enhanced.
- 77.** Encourage, in conjunction with the Peoples Millennium Forests Project, the planting and management of 600 ha of native Irish Broadleaf trees.
- 78.** Develop a classification system and undertake an inventory of broadleaved woodlands in Ireland.

INLAND WATERS AND WETLANDS

2.64 Inland water ecosystems - both standing and flowing waters, as well as other wetlands, including peatlands, are abundant and of special importance for biological diversity in Ireland. Inland water ecosystems may be damaged due to a wide range of threats including pollution, especially eutrophication, drainage, alien species, translocation and introduction of fish stocks, erosion due to overgrazing, peat extraction, acidification and gravel extraction.



2.65 Legislation and a variety of measures have been introduced to combat pollution from industrial and domestic effluent and agricultural wastes. There has been significant progress in eliminating pollution from industry, while pollution caused by sewage discharges is being addressed under a major capital investment programme. Corresponding progress in respect of agricultural diffuse sources of pollution has proven more difficult to achieve. In order to counteract the deterioration in water quality, a major catchment based initiative against eutrophication was launched in 1997. The EU Water Framework Directive (Directive 2000/60/EC of 23 October 2000), which must be transposed by December 2003, came into operation in December 2000 and presents a major opportunity for strengthened protection of aquatic ecosystems and, with regard to their water needs, terrestrial ecosystems and wetlands which are directly dependent on the aquatic ecosystems. The Directive aims to establish a framework for the protection of water quality of inland surface waters, transitional waters, coastal waters and groundwater which protects and enhances the status of aquatic ecosystems, promotes sustainable water use, protects water resources, ensures the progressive reduction of pollution and mitigates the effects of floods and droughts. The Directive requires the co-ordination, on the basis of river basin districts, of the programmes and measures of all public authorities with water management functions with a view to achieving at least “good status” in relation to all waters by 2015. Measures for the implementation of the Directive are underway and all relevant public authorities are participating. These measures will include appropriate arrangements for public information and consultation and for participation by all interested parties.



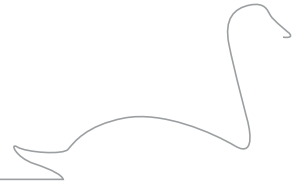
- 2.66 Drainage, frequently undertaken for agricultural purposes but also for flood relief, has caused significant damage to aquatic systems and wetlands in Ireland. Drainage can cause both direct and indirect effects on aquatic and wetland systems. While Arterial Drainage has been of major significance in the past, all new Arterial Drainage Schemes now require a full assessment of all biodiversity and environmental implications and must also go through a public consultation process prior to confirmation of the scheme.
- 2.67 While pollution control is obviously important for the conservation of freshwater fish species and habitats other more specific conservation measures are also required. There is scope for action such as habitat restoration and improvement for the conservation of fish species per se in addition to the use of such measures for the improvement of fisheries. Fish populations are at risk from the translocation and importation of fish stocks in addition to exotic species per se. One particular issue is the need to give consideration to designating important sites for the protection of particular fish species/fish communities.
- 2.68 Ireland is of international importance for peatlands. Irish raised bogs are the most important remaining in Europe. Ireland is the most important country in Europe for blanket bog and holds 8% of the world's blanket bog. Significant work is ongoing to secure the conservation of these bogs. Large areas of commercially exploited cutaway raised bogs are now becoming available and this presents a considerable opportunity for the development of some of these areas to enhance biological diversity.

ACTIONS

- 79.** Maintain and expand the catchment-based national strategy for the protection and improvement of water quality in rivers and lakes by the establishment by Local Authorities of comprehensive projects for river basin management in relation to all inland and coastal waters, and groundwaters. These projects will provide a major input, to be complemented by other appropriate measures by other public authorities, to the implementation of the EU Water Framework Directive and the achievement of at least “good status” in relation to all waters.
- 80.** Ensure that all significant drainage, including both initial drainage and maintenance drainage, will require assessment of its implications for biodiversity, and particularly for wetlands.
- 81.** Produce guidelines for drainage and wildlife.
- 82.** Consider initiatives which could be employed to enhance the conservation of freshwater fish species and communities including the need to designate sites for the conservation of important fish communities.
- 83.** Ensure waters will primarily be stocked with indigenous species, including by reviewing the situation in regard to the translocation of fish between catchments and producing appropriate guidelines or other necessary regulations.
- 84.** Draw up a strategy for the use of machine cutaway and cutover raised bogs as wetland or woodland habitats.

MARINE AND COASTAL

- 2.69 Ireland's marine and coastal sectors are of great importance. The main threats to biodiversity in the coastal zone occur as a result of pressure from the growth in human population, demographic change, inadequate planning and infrastructure, tourism and over-exploitation of resources. The results can involve the loss of habitat, pollution, eutrophication, and the introduction of alien species. In areas of the North Atlantic, the composition of fish stocks has undergone major change because of over fishing, with a decline in major commercial fish species. Irish waters are among the most important areas in Europe for Cetacea and contain important feeding and breeding areas for those species. In light of the threats to marine biodiversity, there can be little doubt about the need to promote a greater appreciation of the importance of such biodiversity and of its value both in ecological and economic terms.
- 2.70 The concept of Integrated Coastal Zone Management has come to prominence in recent years in the CBD and other fora as a key means of providing for the conservation and sustainable use of marine biodiversity. Ireland is in the process of developing an integrated coastal zone management strategy. Such a strategy should play a critical role in habitat conservation to maintain biodiversity and have, as a core objective, the conservation of the best remaining areas of importance for biodiversity in the coastal context; the biodiversity in question is an irreplaceable part of Ireland's heritage.
- 2.71 There is a tradition of marine research in Ireland and there are currently a range of biodiversity-related research projects being undertaken by the Marine Institute and third level institutions. However, given the extent of the coastline at risk, there is a need to enhance biodiversity surveys and research in the marine ecosystem. There is also a need to develop a National Marine Biodiversity Resources Database.
- 2.72 Commercial Sea Fisheries have a considerable impact on marine biodiversity. They impact directly on target fish and shellfish stocks, on non-target fish species and on non-fish species as 'by-catch,' and on benthic species and communities. They may also have indirect effects on species and the marine ecosystems. Many commercial fish stocks in waters off Ireland are heavily exploited and several are considered to be outside safe biological limits in some areas. Gaps and deficiencies in fishery statistics (e.g. on discards or in respect of fish landings) are also a problem.
- 2.73 For aquaculture to be successful and sustainable, it requires a high quality environment and clean waters. However, the industry itself is the source of a number of concerns, including effects on wild stocks, the spread of disease and parasites, localised pollution from organic waste and nutrients, potentially negative impacts on bird species, local habitats and benthic communities.
- 2.74 In estuarine, coastal and marine areas of Ireland pollution is usually localised and often of short duration. Problems usually arise from land based discharges, mainly of sewage or industrial origin, dumping from ships or, on a very localised basis, from aquaculture activities. Continuation, and where necessary enhancement, of ongoing programmes and measures in relation to direct pollution of the marine environment and to the control of inputs arising from polluted inland will be necessary to ensure pollution does not impact adversely on the biodiversity of coastal and marine ecosystems. There is also a need for adequate and reliable data on inputs and this will require the continuation and extension of existing monitoring programmes and their refinement where necessary to overcome gaps in knowledge.



ACTIONS

- 85.** Prepare and adopt a National Integrated Coastal Zone Management Strategy making specific provision for the conservation of biodiversity.
- 86.** The Marine Institute and the Central and Regional Fisheries Boards will advance the conservation, as well as the sustainable use, of biodiversity, through the establishment of biodiversity units, the provision of appropriate legislative responsibilities and other measures.
- 87.** Develop a National Marine Biodiversity Resources Database as part of the National Biological Data Management System.
- 88.** Enhance surveys and research on marine biodiversity, through the implementation of a prioritised programme of surveys and mapping of marine benthic species and communities.
- 89.** Introduce national measures to research and reduce adverse effects of marine fisheries on biodiversity, and within the EU, continue seeking to ensure the Common Fisheries Policy and marine fisheries provide for the conservation of fish species and marine biodiversity generally.
- 90.** Draw up Guidelines and a Code of Best Practice on Aquaculture and Biodiversity.
- 91.** Continue, and where necessary, enhance, in line with relevant EU and international instruments (e.g. OSPAR Convention), existing programmes and measures to control and monitor pollution of coastal and marine ecosystems.

Chapter 3: Implementation, Monitoring and Future Plans





THE PLAN AS FRAMEWORK FOR IMPLEMENTATION OF THE CBD

3.1 This National Biodiversity Plan sets out the general framework for implementing the CBD by Ireland. It includes proposed actions of both a strategic and more specific nature. The elaboration of Sectoral and Local Biodiversity Plans will be key means to achieving the integration of biodiversity concerns into all relevant sectors which is a core focus in line with the CBD.

3.2 Implementing the actions in the Plan will require the involvement and participation of a wide range of interests, especially from Government Departments and Agencies and Local Authorities. This represents a major challenge for the sectors and individuals involved particularly those which have heretofore had little or no experience in confronting biodiversity issues. While action by Government is essential, it is critical to ensure the biodiversity process which is put in place encourages and provides for the participation of the full spectrum of stakeholders.

IMPLEMENTING THE PLAN Co-ordination and Consultation

3.3 A key to delivering an effective and integrated National Biodiversity Plan is to have an adequately resourced and central co-ordinating body. To date, the Department of Arts, Heritage, Gaeltacht and the Islands has had the principal responsibility for co-ordinating the implementation of the CBD and for producing the National Biodiversity Plan. The resources of the Department will be increased to perform this co-ordinating role. The Biodiversity unit within the Department will be charged with co-ordinating the delivery of the National Biodiversity Plan and with its subsequent review and revision. It will also assist as proposed other Departments and agencies on integrating biodiversity requirements into all relevant legislation, policies, programmes and plans, and advise them on the preparation of their Sectoral Action Plans.

3.4 The preparation of the National Biodiversity Plan and the subsequent elaboration of Sectoral Action Plans by Departments and relevant agencies, as well as Local Biodiversity Plans, will be of considerable benefit in contributing to sectoral awareness and action for biodiversity in Ireland. Notwithstanding this, there is, and will continue to be, a need for close collaboration between all Departments in the development of Biodiversity Plans and of other relevant policies, programmes and measures.

The role of the Inter-Departmental Steering Group on Biodiversity, which was established in 1996, will be continued and expanded to ensure ongoing co-ordination and collaboration in respect of biodiversity, both in terms of national actions and input into the Convention.

3.5 The conservation of biodiversity is not a matter solely for Government, but is clearly an issue which should involve the people and economic sectors most affected as well as groups or bodies with a particular interest or role in this area such as academic institutions and conservation NGOs. It is essential to establish a widely based participatory process. In order to provide for consultation with, and input from, all stakeholders, a specific Biodiversity Forum representative of the different interests from the public and private sectors will be established.

North-South Co-operation

- 3.6 In terms of biodiversity, Ireland is one biogeographical unit. Many biodiversity conservation issues would benefit considerably from being addressed by a common or co-operative North-South approach. There has been co-operation and joint initiatives - both between the authorities and between non-governmental organisations and bodies - on various nature conservation projects for many years.
- 3.7 As indicated already Northern Ireland has published a report - Recommendations to Government for a Biodiversity Strategy. While this has been developed in the context of the UK Biodiversity Action Plan, it also considers the all-Ireland context.
- 3.8 This National Biodiversity Plan contains a number of specific actions that will be developed through a joint or co-ordinated North-South approach. These apart, there is much scope for further co-operation on biodiversity, particularly given the new cross-boarder bodies and processes. Increased co-operation would benefit biodiversity in both jurisdictions. It is envisaged there will be regular North-South consultation, with a view to promoting joint actions for biodiversity.

Resources

- 3.9 In some cases additional staff will be required or existing staff will have to be assigned to carry forward the action outlined in this Plan. It is estimated that ten new staff will be required in the Department of Arts, Heritage, Gaeltacht and the Islands and the Department of Agriculture, Food and Rural Development will require 4 additional staff.
- 3.10 Some of the action set out in this Plan will be achievable within existing financial resources. It is estimated an extra €38.60 million (£30.40 million) will be required across the State and Semi-State Sector to implement this Plan.

Monitoring

- 3.11 Progress in implementing the actions set out in the Plan will be monitored on a yearly basis by the proposed Biodiversity unit of the Department of Arts, Heritage, Gaeltacht and the Islands in collaboration with the proposed Inter-Departmental Steering Committee on Biodiversity and the consultative Biodiversity Forum.
- 3.12 A full interim review of progress in implementing the Plan will be submitted for consideration by Government in mid-2004.





REVIEW

- 3.13 The National Biodiversity Plan covers the five-year period 2002-2006. It is only the first step in a permanent process of committed action to promote conservation and sustainable use of biological diversity designed to meet the challenges of implementing the CBD, in particular Article 6 of the Convention in Ireland. It should not be viewed as a definitive statement of everything to be done in the future. Some areas of biodiversity are covered in less detail than others, often necessarily so due to limited knowledge or experience. It is essential to address the known more urgent issues now. It is even more important to begin the process of committed action for the conservation and sustainable use of biodiversity that this Plan initiates.
- 3.14 This Plan will have to be succeeded by new five yearly plans adapted as time goes on to address the challenges in conserving and sustaining biodiversity in the light of the learning experience in implementation and progress achieved. The revision process should take account of the successes and difficulties in implementing the actions set out in this Plan, the value of these measures in contributing to the conservation and sustainable use of biodiversity, and the changing status of biodiversity. It will also have to take account of newly emerging issues and developments at the national, EU and international levels, particularly under the Convention on Biological Diversity.



Appendix 1: List of Actions

INTEGRATING BIODIVERSITY INTO SECTORS

1. Relevant Government Departments and State agencies to prepare, with stakeholders, their own Biodiversity Action Plans in line with agreed guidelines to ensure and promote the conservation and sustainable use of biodiversity.
2. Improve generation and management of information on biodiversity within Government Departments and agencies.
3. Create Biodiversity Units or posts within relevant Government Departments and State agencies whose functions will include the preparation of biodiversity action plans within the framework of the National Biodiversity Plan.
4. Ensure all relevant plans and programmes and all new legislation, and key existing legislation, incorporates provisions requiring the conservation of biological diversity.
5. Ensure biodiversity continues to be fully addressed in the implementation of the operational programmes of the National Development Plan, and in the preparation of future National Plans (e.g. National Development Plan, National Sustainable Development Strategy) ensure the integration and enhancement of biodiversity will be a key consideration.
6. Consider the development of financial instruments/incentives to promote the conservation of biodiversity.
7. Establish a Biodiversity Unit within the Department of Arts, Heritage, Gaeltacht and the Islands to:
 - co-ordinate and support the delivery of the National Biodiversity Plan and the continuing response to the CBD;

- support the preparation of the sectoral biodiversity plans; and
- assist the work of the Biodiversity Forum.

8. Continue the role of the Inter-Departmental Biodiversity Steering Group and expand to oversee ongoing exchange of information, co-ordination and collaboration in respect of biodiversity in the context of the implementation of the National Biodiversity Plan and furtherance of the objectives of the CBD.
9. Establish a specific Biodiversity Forum, representative of all stakeholders, to provide a mechanism for consultation with, and input from, all interested parties specifically in relation to biodiversity.

Providing for Biodiversity at the Local Level

10. Each Local Authority to prepare a Local Biodiversity Plan in consultation with relevant stakeholders.
11. Each Local Authority to designate a contact officer for natural heritage conservation matters in its area.

LEGISLATION

12. To review continuously the adequacy of wildlife legislation in furthering the objectives of strategies for biodiversity.
13. Introduce legislation to provide a legal basis for National Parks (and other heritage properties) and, if necessary, introduce a National Parks and Heritage Properties Bill.
14. Review the need for legislation to provide additional conservation measures for a limited number of species which are of particularly serious conservation concern.

PROTECTED AREAS

15. Review previously proposed Natural Heritage Areas and designate as appropriate under the Wildlife (Amendment) Act, 2000.
16. Elaborate and publish a framework for the selection and designation of future Natural Heritage Areas, including sites of geological and geomorphological importance, taking into account the views of interested parties.
17. Complete identification and notification of SACs and SPAs, their submission to the European Commission and formal designation.
18. Provide advice and prepare and issue Guidelines on the Conservation of SACs, SPAs, NHAs and other protected areas to local authorities and other authorities.
19. Continue the programme of acquisition, agreement to, and designation of a representative series of Nature Reserves.
20. Prepare and implement site specific conservation plans and other plans (e.g. Commonage Framework Plans) with particular reference to Natura 2000 sites, NHAs, Nature Reserves and National Parks in consultation with affected landowners and the public.
21. Continue to provide compensation for farmers and other landowners for losses incurred in managing their lands in a manner which is compatible with the conservation requirements of designated sites.
22. Continue or put in place further measures, including appeals procedures, to provide for consultation with, and the participation of, those affected by existing and future protected areas.
23. Establish a comprehensive programme to monitor the condition of protected areas.
24. Review effectiveness of legislation, policies, practices and mechanisms for site safeguards.

SPECIES CONSERVATION

25. Prepare & periodically revise Irish Red Data Books (or similar assessments) for important species groups, in collaboration with Northern Ireland authorities.
26. Identify species of highest conservation concern in Ireland and prepare, and periodically revise, Species Action Plans for them.
27. Encourage the Gardaí and Customs officers to play an enhanced role in enforcing wildlife legislation, through, among other actions, the provision of specific training and guidance.
28. Prepare strategies, in consultation with Northern Ireland, to control introduced species and to prevent, or minimise, future (accidental or deliberate) introductions of alien species which might threaten biodiversity. Unless clearly safe, all deliberate introductions into Ireland of alien species will require a risk assessment.
29. All public bodies will endeavour to use native species, landraces and breeds and the public will be encouraged to do so.
30. Ireland will seek to ensure that relevant laws and instruments, including those concerned with trade, - both within the EU and internationally - do not contribute to the problem posed by alien species and Ireland and will support the development of specific international instruments to address alien species.

HABITAT AND ECOSYSTEM CONSERVATION

31. Initiate a programme to survey and assess the key natural habitat types which have been inadequately studied. An indicative list of the habitats to be covered by the programme is given in Appendix 3.

COUNTRYSIDE CONSERVATION

32. Review options on Regulation of Hedgerow Removal and Produce guidelines on Hedgerows and Biodiversity.
33. Ensure the new approach to hedgerow management for wildlife under the REPS scheme is implemented throughout the country, and that penalties for any removal of hedgerows are applied.
34. The Department of Arts, Heritage, Gaeltacht and the Islands will develop Guides to Best Practice with Local Authorities and other relevant bodies to safeguard biodiversity. These will, inter alia, normally require such bodies to use native species and seed stock in their tree planting programmes and to employ other environmentally beneficial management practices (e.g. cease using herbicides).

CONSERVATION AND SUSTAINABLE USE OF GENETIC DIVERSITY

35. Establish a national advisory committee with the participation of stakeholders in Ireland to:
 - Report on a co-ordinated programme on the conservation and utilisation of genetic resources for food, agriculture and forestry;
 - Characterise and inventory genetic resources for food, agriculture and forestry both in-situ and ex-situ;
 - Identify genetic resources in greatest danger of extinction and co-ordinate appropriate preservation initiatives;
 - Ensure what is already held in existing collections is maintained; and
 - Promote activities to assist the conservation of genetic resources for food, agriculture and forestry; including through on-farm conservation;

- Examine the need for, and where required propose strategies for the conservation and sustainable use of wild genetic diversity;

- Undertake genetic characterization and analysis of genetic variability for priority wild species;

- Conserve wild genetic resources ex-situ; and

- Support species conservation and recovery programmes for certain priority species.

36. Review the legislative requirements for the protection and maintenance of genetic diversity.

37. Undertake a review and prepare a comprehensive Strategy on Access to Genetic Resources, with appropriate consultation, nationally and internationally.

BIOSAFETY - GENETICALLY MODIFIED ORGANISMS (GMOs)

38. Ireland supports the Cartagena Protocol on Biosafety and will ratify it in a timely manner, taking account, inter alia, of progress in relation to necessary legislative measures at EU level.

39. Through its participation in the Cartagena Protocol, Ireland will continue to support capacity building for biosafety in developing countries.

KNOWLEDGE: IDENTIFICATION, MONITORING AND RESEARCH

40. Prepare a prioritised and co-ordinated programme of inventories, surveys and research, and implement the first phase of the programme. Priority will be given to endangered or threatened habitats and species about which little is known, or which are of special conservation importance.

41. Establish an Irish Biodiversity Database as part of the Department of Arts, Heritage, Gaeltacht and the Islands Heritage Archive and provide links to other relevant databases.
42. Put in place a national biological data management system to be co-ordinated by a National Biological Recording Centre.
43. Strengthen the capacity of relevant State institutions to undertake work to broaden and consolidate our knowledge of wildlife species and to maintain biological records. Capacity building for taxonomic work will be a key focus.
44. Establish a postgraduate studentship programme for research specially focused on the conservation and sustainable use of biological diversity and put in place a programme to encourage the scientific community to focus their research efforts to a greater extent on biodiversity.
49. Seek the adoption by the European Union and the subsequent extension to Irish waters of the provisions of the Agreement on the Conservation of Small Cetaceans in the North and Baltic Seas (ASCOBANS).
50. Ensure that the required measures are taken to enable the State to ratify Annex V to the 1992 OSPAR Convention on the Protection and Conservation of the Ecosystems and Biological Diversity of the Maritime Areas.
51. Ireland will seek to ensure, in co-operation with other relevant states, that the Greenland White-fronted Goose Conservation Plan is finalised, adopted and implemented.

Contributing to the Conservation and Sustainable Use of Biodiversity Overseas

45. Develop a targeted education and awareness strategy for the specific purpose of promoting the objectives of the Convention on Biological Diversity in Ireland.
46. Develop an Internet-based national Clearing House Mechanism.
52. Biodiversity will be made a specific objective of ODA, and all support to, and co-operation with, developing countries shall take account of biological diversity.
53. Ireland will provide specific funding for biodiversity projects in developing countries and countries with economies in transition and for work which contributes to the identification, assessment and monitoring of the state of biodiversity at the global scale (€6.35 million (£5 million)).
54. Ireland will support the development of international law in accordance with the CBD.

PUBLIC AWARENESS AND EDUCATION

45. Develop a targeted education and awareness strategy for the specific purpose of promoting the objectives of the Convention on Biological Diversity in Ireland.
46. Develop an Internet-based national Clearing House Mechanism.

EU, REGIONAL AND INTERNATIONAL Participating in and fulfilling international endeavours in Ireland

47. Ireland will implement fully the CBD and relevant biodiversity-related conventions, etc. to which Ireland is already a Party (e.g. CBD, CITES, Ramsar, Bonn, Berne, Bats Agreement, International Convention for the Regulation of Whaling, World Heritage Convention).
48. Ratify the African-Eurasian Migratory Waterbirds Agreement (AEWA).
55. Continue to work with Member States and the Commission to secure the conservation of biodiversity across the Community.
56. Support the implementation, and future development, of the EC Biodiversity Strategy and other community initiatives to ensure they are successful and widely supported in providing for the conservation and sustainable use of biodiversity.

TERRESTRIAL ECOSYSTEMS: AGRICULTURE

57. Support policies and measures to adapt support mechanisms for extensive farming systems at EU and other levels which will preserve and promote bio-diversity and be environmentally sensitive.
58. The Department of Agriculture, Food and Rural Development will seek, in any future revisions of REPS, to ensure that the conservation and sustainable use of biodiversity is a priority.
59. The Department of Agriculture, Food and Rural Development will engage in full and ongoing consultation with other parties including the Department of Arts, Heritage, Gaeltacht and the Islands, in relation to REPS and other biodiversity related issues and will take cognisance of environmental issues outside the immediate remit of the Department of Agriculture, Food and Rural Development when schemes are being devised or reviewed.
60. The Department of Agriculture, Food and Rural Development will set up a systematic evaluation process for REPS.
61. Control overgrazing by the completion and implementation of the strategy involving the preparation of Commonage Framework Plans and by the implementation of other appropriate measures.
62. Establish a special operational biodiversity unit within the Department of Agriculture, Food and Rural Development to oversee biodiversity conservation in REPS and other programmes.
63. Enhance training in ecology and biodiversity conservation in the agricultural sector by for example, implementing a biodiversity awareness strategy for farmers, the provision of appropriate training for REPS planners and ensuring that modules on biodiversity are taught as part of courses in agricultural colleges and other relevant training schemes.

64. Ensure adherence to the guide on Good Farming Practice.

TERRESTRIAL ECOSYSTEMS: FORESTS

Plantation Forests

65. Increase the target for total annual afforestation consisting of broadleaf species to achieve a target of 30% within five years.
66. Encourage the use of local provenances of native species and continue to support the nursery propagation of such material.
67. Introduce guidelines on forestry and biological diversity, and ensure their implementation as a mandatory condition of grant aid and revise other guidelines to enhance their role for biodiversity conservation.
68. Expand the existing forest and biodiversity research programme, including in association with COFORD, to obtain information on the biodiversity that plantation forests and native woodlands support.
69. Continue to adapt the Forest Inventory and Planning System (FIPS) to ensure the conservation and enhancement of forest biodiversity, including the completion of the Irish Forests Soils Project.
70. Develop an Indicative Forest Strategy approach, incorporating FIPS, GIS and the Forests Soils Project, to match the 'right tree in the right place.'
71. The Forestry Inspectorate within the Department of the Marine and Natural Resources will encourage and promote the conservation and enhancement of biodiversity.
72. Adapt the Amenity Woodland Scheme and the Urban Woodland Scheme to provide an enhanced role for the conservation of biological diversity.

73. Continue to implement and enforce EU controls relating to the marketing of forest reproductive material and forest plant health.
74. Review and upgrade the forest legislation as appropriate to inter alia provide for the conservation and sustainable use of biological diversity and Coillte will be provided with new biodiversity responsibilities.
75. Provide for the conservation and sustainable use of biodiversity in all stages of the forest cycle, whether planning, planting or management, through the Code of Best Forest Practice which has been developed in conjunction with the Irish National Forest Standard and Environmental guidelines.

Native forests

76. Introduce a Biodiversity Woodland Scheme. This Native Woodland Scheme will comprise two separate elements:
 - Native Woodland Establishment - Aimed at encouraging the development of new native woodlands on both isolated greenfield sites and sites contiguous to existing woodland cover. Target of 15,000 ha of new native woodland set, plus 1,000 ha of riparian woodland.
 - Native Woodland Conservation - Aimed at protecting and enhancing existing native woodlands through appropriate proactive silvicultural management. Target of 15,000 ha of existing native woodland (plus 1,000 ha of existing riparian woodlands) will be enhanced.
77. Encourage, in conjunction with the Peoples Millennium Forests Project, the planting and management of 600 ha of native Irish Broadleaf trees.
78. Develop a classification system and undertake an inventory of broadleaved woodlands in Ireland.

INLAND WATERS AND WETLANDS

79. Maintain and expand the catchment-based national strategy for the protection and improvement of water quality in rivers and lakes by the establishment by Local Authorities of comprehensive projects for river basin management in relation to all inland and coastal waters, and groundwaters. These projects will provide a major input, to be complemented by other appropriate measures by other public authorities, to the implementation of the EU Water Framework Directive and the achievement of at least “good status” in relation to all waters.
80. Ensure that all significant drainage, including both initial drainage and maintenance drainage, will require assessment of its implications for biodiversity, and particularly for wetlands.
81. Produce guidelines for drainage and wildlife.
82. Consider initiatives which could be employed to enhance the conservation of freshwater fish species and communities including the need to designate sites for the conservation of important fish communities.
83. Ensure waters will primarily be stocked with indigenous species, including reviewing the situation in regard to the translocation of fish between catchments and producing appropriate guidelines or other necessary regulations.
84. Draw up a strategy for the use of machine cutaway and cutover raised bogs as wetland or woodland habitats.

MARINE AND COASTAL

85. Prepare and adopt a National Integrated Coastal Zone Management Strategy making specific provision for the conservation of biodiversity.
86. The Marine Institute and the Central and Regional Fisheries Boards will advance the conservation, as well as the sustainable use, of biodiversity, through the establishment of biodiversity units, the provision of appropriate legislative responsibilities and other measures.
87. Develop a National Marine Biodiversity Resources Database as part of the National Biological Data Management System.
88. Enhance surveys and research on marine biodiversity through the implementation of a prioritised programme of surveys and mapping of marine benthic species and communities.
89. Introduce national measures to research and reduce adverse effects of marine fisheries on biodiversity, and within the EU, continue seeking to ensure the Common Fisheries Policy and marine fisheries provide for the conservation of fish species and marine biodiversity generally.
90. Draw up Guidelines and a Code of Best Practice on Aquaculture and Biodiversity.
91. Continue, and where necessary, enhance, in line with relevant EU and international instruments (e.g. OSPAR Convention), existing programmes and measures to control and monitor pollution of coastal and marine ecosystems.

Appendix 2: List of Submissions

An Taisce.	Institute of Technology, Sligo.
An Taisce, Meath Association.	Irish Fishermen's Organisation.
Animal and Plant Health Association (APHA).	Irish Genetic Resources Conservation Trust.
Ashling Woodland Development.	Irish Peatland Conservation Council.
Birdwatch Ireland.	Irish Raptor Study Group.
Bland, John	Irish Seal Sanctuary.
Botanic Gardens Conservation International.	Irish Wildlife Trust.
Carey, Tony J.	Jebb, Dr. Matthew
Coillte Teoranta.	Jeffrey, Dr. David
Connolly, Brendan	Limerick Environmental Watch.
Crann.	McCullagh, Tony
Department of Genetics, Trinity College Dublin.	McDonnell, Karen
Department of Zoology, Trinity College Dublin.	Murphy, William
Department of Oceanography, University College Galway.	National Botanic Gardens.
ECO-UNESCO.	NUI Maynooth.
Ecological Consultancy Services Limited (EcoServe).	Ó Drisceoil, Séamus
Environmental Protection Agency.	Parnell, Dr. John
Fennelly, Shay	Royal Botanic Garden, Edinburgh.
Fota Wildlife Park Ltd.	Royal Irish Academy.
Genetic Concern.	Speleological Union of Ireland.
Gibson, Peter	Spillane, Dr. Charlie
Grogan, Dermot	South Wexford Coast (SWC) Promotions.
Hayes, Karen	Tree Council of Ireland.
Humphrys, Tiernan	Zoological Society of Ireland.
Institute of Technology, Carlow.	<i>In addition relevant submissions made in the context of the National Heritage Plan were taken into account.</i>

Appendix 3: Indicative List of Natural Habitat Types Requiring Survey

*Montane wet heath

*Mountain blanket bog

Fens

Lowland grasslands

Lakes

Rivers

Marshes

*Woodlands

Coasts - Cliffs

Cutaway bogs

Sand/Gravel (including Esker areas)

Important sites for the protection of particular fish species/fish communities (e.g. pristine aquatic habitats, including those with very simple fish assemblages)

**National surveys will be commenced in 2002.*

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