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*A National Strategy for the Conservation
and Sustainable Use of Biological Diversity
together with an Action Programme*

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PART I



*A National Strategy for the Conservation
and Sustainable Use
of Biological Diversity*

I. INTRODUCTION

1.1. BIOLOGICAL DIVERSITY AS A SUBJECT FOR A STRATEGY

“**Biological diversity**” is a relatively new concept only to be noted in official documents with and after the appearance on the international scene of the **Convention on Biological Diversity** (referred to hereinafter as the Convention) (Polish reference: *Dziennik Ustaw* Official Journal of Laws of 2002, No. 184, item 1532). This was proclaimed and adopted at the international UN Conference on the Environment and Development (UNCED), popularly known as the **Earth Summit**, which took place in Rio de Janeiro in 1992. The term(s) “protection or conservation and sustainable use of biological diversity” link up with other widely known and applied concepts like “nature conservation” (also nature preservation and nature conservancy), as well as “sustainable development”.

The Convention holds that: “*Biological diversity means 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*”.

Making reference to definitions also operating in the literature (and treating the supra-species level more broadly), it is accepted that **biological diversity denotes the intraspecific variability (the richness of the gene pool) of all living populations, interspecific diversity (species composition) and supra-specific diversity (i.e. that of ecosystems and landscapes)**.

The conservation of biological diversity and the sustainable or rational use of the elements thereof are terms closely linked together and mutually augmentative in the understanding given them by the Convention. In this way the historical premises of nature conservation (mainly of a philosophical, moral and aesthetic nature) have been supplemented by a more utilitarian approach entailing the conservation of

biodiversity such that sustainable use might be made of it both now and in the future. What is most important is that such a way of thinking assumes the need to preserve the whole of nature on Earth, at all levels of organisation, and hence both rich and diverse ecosystems and poor ones, and those at different stages of succession, as well as all the elements that had hitherto been undervalued or even destroyed premeditatedly (like pest species or weeds¹). The Convention also takes into account the richness of areas that are made use of economically, including for example the old traditional breeds of livestock and varieties of crops. It is made clear that these need to be treated in such a way that their permanence and renewability are assured. An important point here is that conservation must not confine itself to the purely conservatorial, but should – through a familiarity with the laws governing nature – involve a conscious shaping thereof, in order to prevent potential threats from arising.



What is required in the light of the above is multifaceted protective activity *in situ* (i.e. in the place of natural occurrence of the given element) and *ex situ* (i.e. away from the natural environment in human-formed collections, zoos, gene banks, etc.), as well as joint action on the part of a large number

¹ From the Convention’s point of view there is no such thing as a “pest” or “weed”.

of institutions representing different sectors of the economy.

The different thrusts to biodiversity conservation thus go in a greater number of directions than was the case with nature conservation as traditionally perceived. This is above all because they relate to the whole country, and not merely to what are effectively small scraps of it enjoying full legal protection. It is



also vital that means of retaining or restoring biological diversity should be devised in relation to the land under more intensive human management, including in areas once “given up for lost” on account of their more significant degradation.

In accordance with Convention provisions, then, it is the entire richness of nature on Earth that needs to be subject to protection. Of course, financial

means are in practice limited in the face of the massive costs that such all-embracing biodiversity conservation would entail, especially when it is active forms that have to be applied. Inevitably there continue to be identified groups and systems that have high priority attached to them. Particular emphasis is thus placed on components of diversity that are rare or in various ways threatened with extinction or permanent transformation.

In singling out these kinds of priority elements, it is nevertheless biological – rather than anthropomorphic or sentimental – premises that need to be taken account of. Thus we might find keystone species whose presence influences the structure and functioning of an entire ecosystem, utilitarian species of which use can be made, and species of ethnic or cultural importance perceived by society as of flagship importance (like the European bison *Bison bonasus* and white stork *Ciconia ciconia* particularly highly prized in Poland). The identification of priority protective actions also needs to have local, regional, national and international scales attached to it.

In turn, in line with the sustainable development concept, the conservation of biodiversity is seen as an essential matter if the country’s further economic development is to be assured, while activity must in these circumstances be integrated with policy of a more strictly socioeconomic nature.

1.2. FORMAL AND LEGAL BASES UNDERPINNING THE NATIONAL STRATEGY FOR THE CONSERVATION AND SUSTAINABLE USE OF BIOLOGICAL DIVERSITY AND ITS RELATIONSHIPS WITH OTHER STRATEGIC DOCUMENTS

In signing the Convention at Rio in June 1992 (and thereafter in ratifying it in 1996), Poland became a fully-entitled party thereto, at the same time assuming all the obligations that this document of major historic importance set out. The premises underpinning the Convention do relate in great measure to the real situation in Poland. This is particularly true of the stated facts that:

- the country’s biological resources are dwindling steadily, with both ecosystem destruction and the loss of species being noted in natural conditions, along with a disappearance of livestock breeds and crop varieties, as well as traditional means of managing the land,
- the forms and methods applied in nature conservation hitherto have not been fully effective,
- there is a lack of a system that would readily identify and divide up in a just manner the benefits

accruing from the possession and utilisation of biological resources.

In the light of the obligations taken on, the formal basis for the present work is constituted by provisions under Article 6 of the Convention, whereby:

“Each Contracting Party shall, in accordance with its particular conditions and capabilities:

(a) 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; and

(b) 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.

This obligation was confirmed in the **Second National Environmental Policy**, which was adopted by the Council of Ministers on June 13th 2000, and then by Parliament in August 2001. This document also holds that the conservation of biological and landscape diversity is important in ensuring the country's environmental security, and is hence something that national authorities ought to seek to create favourable conditions for. The most important objectives of the activities pursued in this regard are considered to be:

- *an improvement in the state of the environment, through the removal or limitation of threats to the preservation of biological and landscape diversity;*
- *the preservation, re-creation and enrichments of natural resources;*
- *the obtainment of widespread public acceptance of the preservation of Poland's natural and cultural heritage.*



In this it needs to be assumed that implementation of the *Second Environmental Policy* (whose main aim is to create conditions for the achievement of a strategy for the country's sustainable socio-economic development), offers a favourable legal, institutional and organizational framework for the bringing into effect of the **National Strategy for the Conservation and Sustainable Use of Biological Diversity**, referred to hereinafter as "the Strategy". It also works towards a general improvement of the state of the environment, which should at the same time be considered one of the fundamental condi-

tions underpinning the effective protection of biological diversity, especially *in situ*.

The *Second National Environmental Policy* also set out the main directions of action and objectives in biodiversity conservation, as separated into the short-term – up to 2002, the medium-term – to 2010 and the long-term – to 2025².

The short-term aims are first and foremost concerned with the devising and implementation of the *Strategy for the Conservation of Biological Diversity*, as one of 13 detailed strategies representing implementational instruments of the *Second National Environmental Policy*. It also speaks of the need to "bring together in one department the administration of all natural resources, meaning *inter alia* that the competences of the Minister of the Environment might be extended to include tasks associated with the protection of the natural resources of the Baltic Sea³, the protection of soil, and spatial planning (...) as well as the calling into being of an



Office of the Chief Nature Conservator as an agency under the supervision of the Minister of the Environment";

The medium-term aims in turn relate to activity that will serve in the full implementation of the Strategy. Spoken of among them is *the establishment in Poland of the NATURA 2000 European Network of Protected Areas, support for research and inventorying work as regards assessment of statuses and the recognition of threats to biological diversity, as well as the running of a monitoring programme therefor*. In addition, the objectives pay particular attention to the implementation of the Strategy in agriculture, with a putting into

² In accordance with the assumption adopted, the leading document in relation to the present *Strategy* is the *Second National Environmental Policy*. Since a number of provisions of the *Strategy* result directly from the objectives of this document, these objectives have been repeated in this place in order that reference might be made more easily to them.

³ The tasks involved in protecting the natural resources of the Baltic already fall largely within the remit of the Minister of the Environment, under the Helsinki Convention, while matters of soil protection join them as Poland accedes to the UN Convention on Desertification. In contrast, spatial planning is still one of the Minister of Infrastructure's areas of responsibility.

effect of investment programmes in building, agriculture, forestry, transport and tourism, and education.

The long-term aims are in essence a view of the desired state of affairs, in which there are two principle elements: 1) *the safeguarding of naturally-valuable areas that have not enjoyed protection hitherto, through their encompassing by different forms of protection;* 2) *the putting in place in all other areas of the country of such conditions and principles of management (including animal and plant protection principles) as will ensure that the country's biological diversity undergoes steady enrichment, rather than impoverishment. In checking upon this process, a set of scientifically justified and socially acceptable measures should be devised."*

Recent years have also brought the adoption of other strategic documents whose implementation



should create a favourable environment for actions taken within the *Strategy* framework⁴. These include:

– *Polska 2025 – A Long-Term Strategy for Sustainable Development* (adopted by the Council of Ministers on July 26th 2000);

– *The National Environmental Protection Strategy for the Years 2000–2006* (draft version adopted by the Council of Ministers Committee on Regional Policy and Sustainable Development on July 27th 2000);

– *A National Strategy for Environmental Education – through education to sustainable development* (as adopted by the Ministers of the Environment and of Education on September 21st 2000);

– *A Concept for a National Spatial Planning Policy* (adopted by the Council of Ministers on October 5th 1999);

– *The National Policy on Forests* (adopted by the Council of Ministers on April 22nd 1997);

– *A Cohesive Structural Policy for the Development of Rural Areas and Agriculture* (adopted by the Council of Ministers on July 13th 1999).

The *Strategy* also makes reference to international conventions and agreements to which Poland is party, among which the most important are:

- *the Convention concerning the Protection of the World Cultural and Natural Heritage* (the Paris Convention), ratified in 1976 (Dz.U. of 1976, No. 32, item 190);

- *the Convention on Wetlands of International Importance, Especially as Waterfowl Habitat* (Ramsar Convention), ratified in 1978 (Dz.U. of 1978, No. 7, item 24);

- *the Convention on the Protection of the Marine Environment of the Baltic Sea* (Helsinki Convention), ratified in 1999 (Dz.U. of 2000, No. 28, item 346);

- *the Convention on International Trade in Endangered Species of Wild Flora and Fauna* (Washington Convention), ratified in 1989 (Dz.U. of 1991, No. 27, item 112);



- *the Convention on the Conservation of European Wildlife and Natural Habitats* (Berne Convention), ratified in 1995 (Dz.U. of 1996, No. 58, item 263);

- *the Convention on the Protection of Migratory Species of Wild Fauna* (Bonn Convention), ratified in 1996 (Dz.U. of 2003, No. 2, item 17);

- *the Convention on Biological Diversity*, ratified in 1995 (Dz.U. of 2002, No. 184, item 1532);

- *the Cartagena Protocol on Biological Safety* (to the Convention on Biological Diversity), signed in 2000 (not published);

- *the Agreement on the Conservation of Small Cetaceans of the Baltic and North Seas*; ratified in 1995 (Dz.U. of 1999, No. 96, item 1108);

- *the Agreement on the Conservation of Bats in Europe*, ratified in 1996 (Dz.U. of 1999, No. 96, item 1112);

- *The European Landscape Convention*, signed in 2001 (not published).

The direct legal basis for this study, and in the future also for the *Strategy's* updating, is provided by Article 35, paragraph 2 of the Nature Conserva-

⁴ A more wide-ranging discussion of activity to date in the service of biodiversity conservation in Poland is offered by Appendix 2.

tion Act of October 16th 1991 (*Dz.U.* of 2001, No. 99, item 1079 with later amendments). This obliges the appropriate Minister in matters of the environment

to draw up a national strategy for the conservation and sustainable use of biological diversity, together with an action programme.

1.3. MEANS OF WORKING ON THE STRATEGY

A substantive basis upon which the present *Strategy* has been drawn up was constituted by the several aforementioned studies, particularly: 1) the *Strategy for the Conservation of Living Natural Resources in Poland* (1991), as devised by Profs. L. Ryszkowski and S. Bałazy at the Research Institute for Agriculture and Forest Environment of the Polish Academy of Sciences; 2) the *Polish Biodiversity Study* prepared by the National Foundation for Environmental Protection for the Rio Earth Summit, and published in Polish in 1993; 3) the auctorial versions of the strategies for the conservation of biological diversity (dated 1995 and 1999), as drawn up by Dr. M. Cieślak, 4) the draft *National Strategy and Action Plan for the Protection and Sustainable Use of Biological Diversity* drawn up by the NFEP in 1998; 5) the assumptions and theses underpinning the *Strategy* as devised at the Department of Forestry, Nature and Landscape Conservation of the Ministry of Environmental Protection, Natural Resources and Forestry in 1999.

In accordance with the generally accepted principles for the development of a strategy, the process by which the present document was put together comprised several stages:

- a synthetic diagnosis of the status of biodiversity in Poland was produced, with its overall framework encompassing a general evaluation of the current situation, as well as the previous trends when it came to the transformation of the natural environment and the dynamics to ongoing changes, as well as the identification of conflicts and problem areas. [also assessed was current and potential (future) conditioning of an internal and external nature];
- a formulation of the basic strategy, within which it was possible to devise a vision of the desi-

red state of nature (i.e. biodiversity) that should be obtained within the assumed time horizon through the bringing into effect of strategy provisions; as well as to determine the pathway via which this situation might be reached, by way of the achievement of an adopted set of strategic and operational goals.

In formulating recommendations within the present *Strategy*, it is a sectoral approach that has



been taken⁵ (for the benefit of those doing the implementing), with the division⁶ made in line with that adopted officially (by the Act of September 4th 1997 on divisions of the governmental administration, *Dz. U.* of 1999, No. 82, item 928, with later amendments).

In accordance with Article 5, point 2 of the Nature Conservation Act, the *Strategy* is a detailed programme of action which – by reference to the operational goals set out therein – determines implementation conditions, including: the units responsible, the subjects taking part, the estimated costs, the sources of funding and the completion deadline.

⁵ The use of another criterion in making the division is also theoretically possible. In any case, a strategy for the conservation of biological diversity may be looked at from the points of view of: a) the subject of protection, where provisions relate to indicated levels of biodiversity (genetic, species or ecosystemic); b) the means (methods) of protection put into effect *in situ* (both active and passive) and *ex situ*; c) the spatial differentiation of the country (different strategies for different areas); d) the variety of land-use types; e) the instruments of protection applied (legal, organizational, economic and financial or educational activity).

⁶ In the *Second National Environmental Policy*, mention is made of the following divisions that the *Strategy* should make reference to in its activities: agriculture, forestry, tourism and recreation, physical development, transport, water management, the maritime economy, education and culture.

2. THE STATE OF AND PROBLEMS WITH THE CONSERVATION OF BIOLOGICAL DIVERSITY



Poland's biological diversity is among Europe's richest⁷. This is a reflection of both favourable natural conditions (a location at the centre of the continent, a lack of natural barriers to the east and west, a transitional climate, diverse geological structure and relief), and an influence of human activity that has taken a different course to that seen in other European countries (with uneven industrialization and urbanisation, the retention of traditional extensive agriculture over large areas and the extent and historical persistence of forests). The condition in which biodiversity finds itself is also influenced by the actions taken in the name of nature conservation, which have a long tradition in Poland. As a result of what has already been done, a number of problems relating to the sustainable use of biological diversity have been tackled previously. The most important achievements in this regard are as presented in Appendix 2.

However, Poland too has had and has its threats to biological diversity of the kinds typical for today's civilisation. From among these, the greatest emphasis should be laid on:

- the ongoing urbanisation and bringing under more intensive management of an ever greater area of the country, often with little account given to environmental requirements (including the principle of biodiversity conservation), with the results that areas of natural or semi-natural nature have disappeared, ecosystem functioning (and continuity) has been impaired and the harmony of the landscape has been disrupted;
- the processes of eutrophication, drainage, soil acidification, toxic contamination and thermal change have combined with human-induced forms of succession to change the natural features of habitats, biotopes and ecosystems, as well as to modify naturally-valuable attributes;
- changes in the way land is used, including a limitation or abandonment of traditional means of production in agriculture and consequent succes-

⁷ The state of Poland's biological diversity and the threats to it are discussed more fully in Annex 1.

sion phenomena that distort landscape structure and either eliminate habitats and ecosystems or else fragment, simplify, homogenize or de-diversify them;

- negative anthropopressure exerted upon “conflict” species that require protection but are nevertheless capable of generating economic and social problems (like beavers *Castor fiber*, cormorants *Phalacrocorax carbo* and otters *Lutra lutra*), such that numbers might need to be limited;
- excessive exploitation of populations of particular wild-living species (like fungi, herbs, snails and certain game animals), such that populations are confined and the ecological balance disturbed (especially through the removal of predators such as fish);
- ongoing synanthropization of fauna and flora, as well as penetration by alien species⁸ (including via planned or chanced introductions), with the result that less-competitive native species decline and retreat;
- genetically modified organisms and their release into the environment (with consequences that are mostly unknown as yet).

The changes in the political and economic systems that have taken place since 1989 have increased the threat to biodiversity (the free market economy, increased investment on new sites, the opening up of borders, an increase in consumption, etc.), while the economic difficulties that have arisen in the course of the transformation have made it harder to implement tasks as regards conservation.

In the face of such a state of affairs, the main thrusts to nature conservation applied previously have seemed inadequate in the new circumstances. Instruments applied in task implementation as regards biodiversity conservation require steady strengthening (in terms of personnel and funding) and improvement (as regards the law and organizational structures). It is also necessary for there to be greater integration of protective action with prophylactic action, with the latter being seen as the responsibility of the different sectors of the economy above all.

The implementation of many of the tasks will not be possible if extensive knowledge on statuses, changes and threats is not available. Such knowledge should serve both the improvement of protection methods and the formal and informal education of society as a whole, representatives of the authorities not least within it. If public awareness as to the effectiveness of all undertakings serving sustainable de-

velopment (including biodiversity) is not raised, any positive effects will be limited.

The conservation of biological diversity must be achieved across the country, including in areas put to productive use. This requires the adoption of innovative new solutions taking account of both economic interests and those of environmental protection. This is particularly true of the agricultural



areas that form the main element in the Polish landscape.

Agricultural areas are characterised by a rich mosaic of habitats that results from traditional forms of management. This ensures that c. 30% of agricultural land can be considered of high natural value and functioning as a refuge for endangered species of flora and fauna. In such a situation, agriculture will need to change fundamentally, particularly in the event that it prepares for the modernization of production. The public currently see actions serving the environment as of limited significance in the face of huge structural problems. This situation poses a threat to valuable natural features, not only since there is a desire to increase agriculture output and to specialise, but also because of the increasing marginalisation of areas not favourable to agricultural use.

To date Poland has lacked a clear policy seeking to develop rural areas sustainably, and thus linking up the conservation of biodiversity in agroecosystems with the safeguarding of an adequate standard of living for farmers. Such a desirable state of affairs can only come about if long-term agro-environmental programmes are implemented, so as to instil good agricultural practice and raise the level of environmental knowledge in rural communities.

A particular role in biodiversity conservation is that played by forests. While much transformed in

⁸ The term alien species is taken to include subspecies, races and lower taxa also.

Poland – as elsewhere – these remain natural enough to display major habitat diversity and serve as refuges for a host of plant and animal species. They also represent important foci linking up with other ecosystems and influencing them, including by way of a better-than-otherwise water balance. The priority role of forests in shaping and protecting biological diversity requires that this forest function be placed



on an equal footing with others of importance. Private forests are a particular cause for concern, since most are in such a poor financial condition that their management and protection are neglected.

Also of fundamental importance to the preservation of biodiversity are aquatic ecosystems, including those of the coast, rivers and river valleys, lakes, small bodies of water and wetlands.

Where spatial planning is concerned, there is an urgent need to monitor – and then effectively remove – those processes posing a direct threat to Poland’s valuable natural and landscape features. Above all, there is a need to reduce the rate at which built-up areas extend into important landscapes. The consequences of the appearance of new housing estates and places of recreation – or else warehousing or retailing facilities – has in many cases been the fragmentation of the landscape, disturbance of its functioning and consequent hindering of effective biodiversity conservation.

Greater account needs to be taken of conservation matters when it comes to the procedures for drawing up regional and local planning documents. More use needs to be made of those new “planning” instruments in environmental protection known as environmental impact assessments, not only as regards individual developments, but also for whole plans and programmes. To this end it will be essential that planners are in receipt of the necessary information regarding the state of, threats to and protective needs as regards biological diversity (ultimately assuming the form of a comprehensive natural inventorying and valuation of the country). This



requires databases to be devised and adapted in such a way that they can be used in planning (especially when it comes to cartographic information on appropriate scales).

Another important matter is the appearance of conservation-related conflicts in the conditions of the market economy. If these are to end, procedures for negotiating terms of protection will need to be worked on, and new instruments (notably economic) established, with a view to local communities being encouraged to join in with actions to protect nature.

The resolution of the above problems will require the framing of the necessary regulations in law, and the introduction of effective organisational, technical and financial mechanisms in regard to all spheres of the conservation and sustainable use of biological diversity. The final effect of all this activity will be greatly influenced by the rate of economic growth in the upcoming decade, as well as by optimal use being made of the opportunities afforded by Poland's accession to the EU in the nearest future.

To sum up, it needs to be stressed that most of the problems in the biodiversity conservation sphere are intertwined and mutually conditioning. The most important may be said to be:

- inadequate acquaintanceship with the status of biological diversity, the changes within it and threats to it;
- a low level of environmental awareness on the part of the public (those in authority not excepted);
- a lack of account (or inadequate account) taken of the need for and principles of biodiversity conservation in the policies and activities of the different governmental ministries and institutions;
- the insufficiency of effort and funding being put into the implementation of nature-conservation principles;
- an as yet imperfect process by which the legal conditions for the conservation and sustainable use of biological diversity have been put in place.

Each of these problems will necessitate the taking of particular steps with a view to their being resolved.

3. THE STRATEGY

3.1. INITIAL ASSUMPTIONS

3.1.1. Subject of the Strategy

In line with the definition given at the outset, the subject of this *Strategy* is **the whole of biological diversity** at all levels of organisation, and hence intraspecific (genetic) diversity, interspecific diversity and the supra-specific diversity of ecosystems and landscapes.

At the genetic level, the most attention is paid to the retention of the gene pools of species in economic use – in reflection of their importance for human nutrition and agriculture. What is particularly involved here is the bred-in intraspecific diversity or crop plants, forest trees and shrubs and garden plants, as well as breeds of livestock. This level, which shows the greatest variability, is only poorly known where wild species are concerned. It is for this reason that there is so much difficulty with active measures in the name of the protection and retention of intraspecific diversity in populations of wild-living species.

At the species level, it is possible to identify a number of groups that are especially noteworthy. The interest in each of these groups may be dictated by other precepts also. Thus, there is a group of spe-



cies utilized economically (e.g. medicinal plants, fungi, edible snails); a group of particularly valuable and/or legally-protected species, including ones that are endangered; a group of flagship species (like white storks, porpoises *Phocoena phocoena*, seals and the European bison), a group of keystone species (e.g. predators, pollinating insects, host plants), and a group of conflict species (like cormorants, otters and beavers).

The last of the levels – that of ecological systems – takes in the range of ecosystems in the scientific sense,



as well as the configurations thereof that shape natural landscapes. This level has long been subject to protective action, if treated separately from the above. However, economic development has made it clear that neither species protection nor an areal protection whose approach has confined itself to selected areas of particular value have been effective enough. Furthermore, it has not yet been fully comprehended that the disappearing landscapes (mosaics of forest, meadow and field ecosystems with associated settlement) are in need of protection as elements of



human heritage, having been shaped over time by a process of more or less harmonious interaction between nature and humankind.

3.1.2. *Entities Involved in Implementation of the Strategy*

The *Strategy* is **first and foremost addressed to the governmental administration at different levels**, and the units subordinated thereto, **as well as to local authorities**, which is to say to the organs more or less directly involved in the management of Poland's natural resources, or else involved in other spheres capable of exerting a more major influence on those resources.

It is taken as read that attainment of the *Strategy's* objectives will require commitment on the part of almost all decision-making centres and support units, and indeed of society as a whole. It is thereby also assumed that organs in authority will be joined – as important participants in the implementation process – by scientific and research units, educational establishments, zoological and botanical gardens, museums, business entities (irrespective of their form of ownership) and the media. A particular role will be played by organisations and civil society in general, as monitors of the exercising of power on the one hand, and as full participants in the implementation process on the other.

The precise assignment of tasks to given units responsible for or participating in implementation will of course be made within the framework of action programmes.

3.1.3. *Implementation of the Strategy and a Timetable Therefor*

Implementation requires close inter-departmental cooperation as well as far-reaching public commitment. The burden of the work to inspire and co-



ordinate undertakings in biodiversity conservation of course falls upon the Minister with responsibilities in matters of the environment. A particular role is that to be played by the National Contact Point for the Convention on Biological Diversity operating within the Ministry of the Environment and responsible for ongoing cooperation with all those participating in *Strategy* implementation. One of its more important tasks will be to cooperate with the other relevant departments and ministries as they prepare detailed operational plans for the action programmes, as well as to be vigilant in monitoring implementation work in general.

Implementation will also require constant coordination in the light of Poland's international commitments, assumed in line with cooperation with the European Environment Agency, for example.

The achievement of the aims set out in the *Strategy* will require effective use of all the instrumentation available at present, as well as new kinds developed as implementation continues. What are being invoked here are instruments of a legal, organizational, economic, research-related, technical, technological or educational nature.

The overriding objective and strategic actions detailed in the *Strategy* go beyond particular timeframes and should rather be a constant element of state policy. This is also true of a major group of operational activities whose essential feature is that they

seek to increase effectiveness, as well as to provide monitoring, research, etc. On the other hand, there are certain activities of a one-off nature that will need to be taken on and completed in successive years as the need arises and as opportunities allow. The tasks flowing from these will be included in consecutive action programmes, beginning with that for the years 2003–6.

3.1.4. Principles Underpinning Activity in the Name of Biodiversity Conservation

As the *Strategy* is implemented, it will be necessary for account to be taken of the following principles:

- **The principles of consolidation**, to the effect that there should be maximal integration of actions in the name of biodiversity conservation, both within the framework of the different departments and the linkage between them, and also as regards the national environmental and planning policy, and the spheres involving scientific research, education, the law and the economy, monitoring and international cooperation. This principle is to favour the creation of a coherent and comprehensive system for the conservation and sustainable use of biological diversity, with a part thereof being properly-prepared services subordinated to the state administration, organisations in society, research and educational institutions, etc.

- **The principle of division into regions**, indicative of the need for regional strategies and programmes to be drawn up, and the bodies responsible for their coordination and implementation designated.

- **The principle of internationalisation**, which imposes a requirement that international conventions, agreements and principles be respected, along with environment- and biodiversity-related Directives and Regulations in force in the European Union (like the so-called “Wild Birds” Directive (79/409/EEC, on the conservation of birds), the “Habitats” Directive (92/43/EEC on the conservation of natural habitats and of wild fauna and flora), and Regulation 1257/99/EEC on support for rural development from the European Agricultural Guidance and Guarantee Fund – which concerns biodiversity conservation in rural areas, among other things, the Framework Water Directive (2000/60/EEC), which sets out policy principles in relation to waters, the EU Biodiversity Action Plans for the Conservation of Natural Resources, the Biodiversity

Action Plans for Agriculture, the Biodiversity Action Plans for Fisheries, and the Biodiversity Action Plans for Economic and Development Co-operation.

- **The principal of local participation**, which points to the need for mechanisms that would en-



courage local people to participate in programmes for the conservation of biological diversity, stimulate local initiatives (e.g. the establishment of private or communal protected areas) and help develop local



ties and a sense of wider participation in the decisionmaking process. This principle also assumes a greater role than at present for various NGOs.

3.2. VISION

The aforementioned *Long-Term Strategy for Sustainable Development – Polska 2025* provided that the state and resources of the environment joined society and the economy as one of the main factors determining conditions and opportunities for Poland's further development in the 21st century. *Polska 2025* also accepts that one of the key tasks will be: *"to ensure the country's environmental security and raise society's living standards through the safeguarding of a good state of the natural environment throughout, as well as to guarantee that Poland's natural and cultural heritage will be handed on to future generations in a state that allows their aspirations also to be achieved..."*. The comprehensive vision of the target state of the country that should be obtained via the most desirable development scenario contains a series of provisions on different components of the environment, as well as mechanisms by which negative human impacts might be limited. In relation to nature, this prospective view includes the following entries:

– *"Spatial management should serve to ensure a proper relationship between human need and nature conservation. The area and number of protected areas founded by the authorities at different levels will increase, while the basis underpinning the system of protected areas will be the NATURA 2000 European ecological network. There should be direct heeding of the principles of nature conservation and the sustainable management of biological resources, including outside protected areas."*

– *"An important element in the national environmental framework will be constituted by forest areas. Forest*



management should be pursued in such away as to assure a steady increase in resources and enhancement of biodiversity in forest complexes, including through the reintroduction of endangered plant and animal species. The water-protecting, climate-forming and environment-shaping functions of forests will be developed."

– *"Protective actions, the modernisation of the economy, the stimulation and shaping of consumption models and full financial accounting in regard to environmental losses will lead to a rationalisation of the use made of water, space and biological resources."*

– *"Poland will be an active member state of the EU when it comes to actions serving environmental protection, and will be conscientious in meeting its international obligations in this regard."*

As a summary of the targeted vision of the country as of 2025 described in detail above, the present *Strategy* adopts the following piece relating to the sphere of nature:

The whole territory of Poland, including its marine waters, will be characterised by a high-quality natural environment that will allow for the preservation of the full wealth of biodiversity Polish nature can afford, as well as of the continuity and balance in natural processes. Areas with the most valuable natural features will be under legal protection and linked via a system of functioning ecological corridors, while most formerly-degraded areas will have been reclaimed and recultivated. At the same time, the legal, organizational and economic mechanisms ensuring the conservation and sustainable use of biological diversity will be in place and in operation. Over much of the country, the local valuable natural features will be among the basic motors of socio-economic development capable of raising local living standards. The public will be much more sensitive to the needs of nature and more aware



of how it functions, with this state of affairs being manifested *inter alia* in heightened activity on the part of organisations in society.

Success with the implementation of the *Strategy*, and hence the achievement of the anticipated vision, will be very much dependent on the following conditions:

- that the ecological awareness of society (including those in authority) increases, especially as regards the need to preserve all nature's riches as the heritage and general public good of the nation, for present and future generations;



- that a policy of sustainable development (of which the *Strategy* will be one important element) be developed;

- that ongoing efforts are made to improve the state of all components of the natural environment (the atmosphere, hydrosphere and lithosphere), through the taking of effective action on the one hand and the enforcement of binding law on the other;

- that the legal, financial and organisational conditions for the attainment of objectives set out in the *Strategy* be put in place and improved;

- that the substantive and organisational services involved in nature conservation be strengthened at the national, regional and local levels;

- that there be a continuation of Poland's active participation in international activities and programmes working for the conservation of biodiversity.

3.3. OBJECTIVE OF THE STRATEGY FOR THE CONSERVATION AND SUSTAINABLE USE OF BIOLOGICAL DIVERSITY

3.3.1. The Overriding Objective

All actions taken, whether they be in the economic, research-related, legal or educational spheres of human activity, should serve in the attainment of the following aim:

The preservation of the full native wealth of nature and the safeguarding of the continuity and possibilities for development of all levels at which it is organised (within the species, between species and above the level of the species).



The conservation of biological diversity must take in nature throughout the country, irrespective of its manner of use (i.e. in both areas under protection and those subject to management), or of the degree to which it has been distorted or destroyed.

The assessment of the status of biological diversity, the effectiveness of protective measures taken and the activities associated with its utilisation will be made on the basis of a set of indicators now being drawn up by the European Environment Agency. The effectiveness of strategy implementation and the fulfilment of tasks arising in the successive action programmes will be the subject of periodic assessments and annual gatherings of those participating in implementation.

3.3.2. Strategic Activity

Attainment of the overriding aim will entail the effecting of four fundamental strategic activities:

I. The recognition and monitoring of the status of biological diversity and of existing or potential threats thereto;

II. The removal or limitation of current and potential threats to biological diversity;

III. The preservation and/or enhancement of existing elements of biodiversity, and the reinstatement of those that are disappearing;

IV. The integration of actions in the name of biodiversity conservation with those important for it in the different sectors of the economy, in the public administration and in society in general (including in NGOs).

The above actions will be put into effect through the creation of appropriate legal, organisational and economic-financial mechanisms that will condition the preservation and rational utilisation of biodiversity resources, as well as the broad dissemination of the idea that the actions being taken are of importance. The mechanisms in question are referred to directly by the operational activity detailed below. This is detailed in line with the divisions of the governmental administration, as set out in the Divisions of the Governmental Administration Act of September 4th 1997. In some cases, problem areas are identified within the divisions for the sake of order.

3.3.3. Operational Activity

THE "ENVIRONMENT" SECTOR *Sphere of "Nature and Landscape Conservation"*

- The protection of the genetic resources of wild species

1. The protection of species whose gene pools are threatened and in need of protective undertakings on the scale of the whole country or particular regions.

2. The re-creation as necessary and protection of a system of ecological (forest, river and other) corridors ensuring exchanges of genes between different local populations.

3. The *ex situ* conservation of native plant and animal species under threat.



- The protection of endangered species
4. Protection of such species of animal and plant, with account also being taken of any regional variability.
5. Arresting of the processes by which resources of the commonest species are diminishing thanks to anthropogenic change.

6. The protection of keystone species in different types of ecosystem.

- The sustainable use of species

7. Rationalised game and fish management.

8. Rationalised principles as regards the economic utilisation of wild plants and animals (the collection and sale of fruit, herbs, edible fungi (including the fruiting bodies of mycorrhizal species), snails, etc.).

- Action against alien species

9. The prevention of introductions, elimination, halted spread and monitoring of populations of alien species, especially those posing the greatest threat to the native resources of biodiversity.

10. Study of the influence alien species exert on native species and ecosystems, as well as of the social and economic consequences of this influence.

- Action in regard to genetically modified organisms

11. Checks upon GMOs from the point of view of their possible influence on the environment and biodiversity.

- Action in regard to conflict species and those not well-received by the public

12. Rationalisation of progress with the above species.

- Protection of habitats and ecosystems

13. The protection of disappearing plant communities and biotopes of special concern.

14. Rationalisation of the system of protected areas and objects, as well as of the ways in which they are managed.



15. Implementation of the *Natura 2000* Programme.

16. The comprehensive conservation and sustainable use of wetland ecosystems.

17. The comprehensive conservation and sustainable use of marine biodiversity.

Sphere of "Forestry"

18. The heeding of needs as regards the conservation and sustainable use of biodiversity as agricultural land is being afforested.

19. Preservation of the full diversity of forest trees.

20. The full basing of forestry around rational ecological premises.



21. The effective protection and sustainable use of wetland ecosystems in forests.

22. The shaping of the transitional zones (ecotones) at the forest edge.

23. The protection of areas (including mountain areas) that are sensitive to managerial changes, in particular as regards forestry.

24. The ensuring of conservation and sustainable utilisation in the procedures whereby forests are planned, managed and protected.

25. Effective protection and sustainable use of the biological diversity in forests not in state hands.

26. The effective nature- and forest-related education of the public.

Sphere of "Geological Resources / Raw-materials Management"



27. Minimisation of the consequences for biodiversity of the exploitation of mineral resources.

Sphere of "Environmental Protection"

28. Minimisation of the pollution of waters, the air and the land.

Sphere of "Promotion and Education"

29. Saturation of the information stream with elements relating to the conservation and sustainable use of biological diversity.

30. The building-up of the role of civil society when it comes to the conservation and sustainable use of biodiversity.

31. The perfecting of the generally-accessible system of information on biodiversity.

Sphere of "Nature Monitoring"

32. Effective monitoring of the state and status of elements of biological diversity.

THE "WATER MANAGEMENT SECTOR"

33. The ensuring of sufficient water resources for the conservation and sustainable use of biological diversity.



34. The effective protection of river biodiversity and reinstatement of ecological continuity.

35. The implementation of environment-friendly flood protection measures.

THE "AGRICULTURE", "RURAL DEVELOPMENT" AND "AGRICULTURAL MARKETS" SECTORS

36. The preservation of agrobiodiversity in the face of new conditions of the agricultural market.

37. The effective protection of crop and livestock species.

38. An increase in the area of agricultural land planted with trees and shrubs.

39. The devising of a national system of naturally-sensitive areas, as well as a programme for the protection thereof.

40. A reduction in the level of pollution by substances of agricultural origin (including farm and household effluent).

41. A raising of awareness among farmers and fishermen where the conservation and sustainable use of biological diversity is concerned.



42. The devising of mechanisms favouring the handover of agricultural land for nature conservation purposes.

43. conservation and sustainable use of biological diversity in basins used for fisheries.

44. The combating of excessive exploitation of marine species, and the prevention of habitat destruction with a view to the continuity of populations of the above species being assured.

THE "CONSTRUCTION, PLANNING AND HOUSING" SECTORS

45. The introduction of principles regarding the conservation and sustainable use of biological diversity where planning procedures are concerned.

46. The establishment of substantive and technical backup in the form of exhaustive up-to-date spatial



databases on the biodiversity of particular areas.

47. The protection of urban and rural green space.

THE "TOURISM" SECTOR

48. The development of sustainable tourism as a form of the sustainable use of naturally-valuable areas.

THE "EDUCATION" AND "HIGHER EDUCATION" SECTORS

49. The heeding of issues relating to the conservation and sustainable use of biological diversity in the devising of programme bases and teaching programmes at all stages of education.

50. The preparing of qualified teaching staff, appropriate programmes and teaching aids for effective education in regard to the conservation and sustainable use of biological diversity.

THE "SCIENCE" SECTOR

51. The development and popularisation of the scientific knowledge needed for the effective conservation and sustainable use of biological diversity, in particular with regard to:

- rare and endangered species, economically-valuable species (like herbs) or those valuable on account of the roles they play in ecosystems (raptors, scavengers and fungi),

- threatened ecosystems that are also of economic, research or other value (e.g. disappearing dystrophic lakes, lobelia lakes, shallow coastal lagoons), as well as ecosystems unique on the international, regional, national or local scales (e.g. extensive caves),

- the genotypes of crop plants, livestock species and farmed fish, and in particular the old native races, varieties and breeds thereof,

- threats to the native biodiversity.

52. The equalising of opportunities for all units having substantive potential at their disposal (scientific units, public organisations, foundations, etc.), when it comes to access to the funding designated for research and development into the conservation and sustainable use of biological diversity, as well as the showing of preferences for inter-disciplinary undertakings of supra-local significance in the policy financing scientific periodicals and publications and the organizing of seminars and conferences.

53. More effective cooperation between the pure and applied sides (in administration, industry, NGOs, etc.) in order that research results might be more fully and rapidly used, including in the decisionmaking process.

THE "TRANSPORT" SECTOR

54. Minimisation of the negative impact of the transport network on elements of biodiversity.

THE "MARITIME ECONOMY" SECTOR

55. Effective conservation and sustainable use of the marine environment.

THE "ECONOMY" SECTOR

56. Minimisation of the negative impact of power supply on the environment.

THE "NATIONAL DEFENCE" SECTOR

57. Familiarisation with and protection of the biological diversity on Armed Forces' land.



3.4. ANTICIPATED RESULTS

- The obtainment of as complete as possible an inventory of the status of biodiversity observed in nature and put to use by humankind. Inventorying on the national, regional and local scales should allow for a determination of threats, and a determining of the theoretical bases to underpin programmes for the conservation of biological diversity and the monitoring of changes therein.

- The assurance of the reliable and up-to-date information permitting an effective conservation and use policy to be pursued, and scientific research developed.

- The retention and reinforcement of existing biological diversity at the intraspecific, interspecific and supra-specific levels (along with a characterisation of typical processes and types of impact in the places of occurrence of species and ecosystems), including preservation of:



- the full genetic variability of wild animal and plant populations in their natural habitats,
- all viable populations of native species,
- the genetic resources employed by people in nutrition and agriculture, including above all the varieties of crop and breeds of livestock,

- all important and typically-Polish ecosystem and landscape types, with account being taken of the principle of representativeness with regard to the given natural region.

- The reinstatement of genetic resources and species and the reconstruction of damaged ecosystems.

- The shaping of desirable biodiversity in areas markedly impoverished thanks to human influence and various degradational factors, including urbanised areas.

- The maintenance of the genetic resources of wild-living endangered plant and animal species, as well as those important in scientific research or for cultivation and rearing, in the conditions of *ex situ* collections and gene banks.

- The development of research and analysis that integrates the different aspects to biological diversity.

- The supply of interested parties with up-to-date information on the significance, status and principles of biodiversity conservation and use.

- The establishment of bases, convictions and systems of values that favour the preservation of biological diversity.

The data gathered will be used in the devising by relevant governmental and local governmental institutions of strategic documents of national and regional reach. The introduction of principles set out in the Strategy will in many cases exert a significant influence in limiting the way land is used, thereby necessitating changes in local physical development plans (often with attendant matters of compensation needing to be dealt with).

THE STATUS OF AND THREATS TO THE DIVERSITY OF POLAND'S NATURE

The status of biological diversity is determined by both physico-geographical conditions and the intensity of human impact, including steps taken to protect nature. If diversity may be assessed by reference to the degree of preservation of the species and communities that would occur naturally, as well as of the breeds and varieties of livestock and crops present, then Poland may indeed be said to have considerable natural riches. However, the situation is skewed considerably by the major variation from region to region. While areas like the north-east have nature in a very good state of preservation, with species that are rare anywhere else in Europe occurring in good numbers, there are also parts of the country like Upper Silesia in which degradation is ongoing and the species composition has been impoverished.

This regional variation has natural explanations too, since Poland is located where Europe's Atlantic and Continental climatic influences meet, as well as being characterised by east-west bands of relief features. The effect of all this is that a large number of species have the southern, northern, eastern or western limits of their ranges running through the country.

Within the framework of ongoing cooperation with UNEP, 1991 brought a first assessment of Poland's biodiversity under the title *Polskie studium różnorodności biologicznej* (the Polish Biological Diversity Study), as devised by the National Foundation for Environmental Protection (*Narodowa Fundacja Ochrony Środowiska*). Since that time, a variety of authors have gone on to draw up reports that include the following:

- Red Books for the Polish Flora (Kaźmierczakowa and Zarzycki, eds. 2001) and Vertebrate Fauna (Głowaciński, ed. 2001),
- Bird Refuges in Poland (Gromadzki *et al.* 1994),
- the monograph *Ptaki Polski* ("Birds of Poland") (Tomiałojć 1990),
- an atlas of the breeding birds of the Małopolska region (1991),

- a Red List of Baltic Sea Biotopes (Warzocha and Herbich, manuscript 1996),
- a digital database of CORINE-nature refuges (Dyduch-Falniowska and Połczyńska-Konior 1996),



- an atlas of the distribution of wetland habitats in Poland (by the Institute for Land Reclamation and Grassland Farming),
- consecutive versions of regulations concerning the species protection of animals and plants, bringing lists of protected species into force.

Work has also been done to inventory the flora, fauna and state of nature in different areas, including

the National and Landscape Parks and the Nature Reserves – as part of the plans for their protection. The forest areas run by the “State Forests” National Forest Holding have also been inventoried. Moreover, there is now a good knowledge of the country’s still-extant crop varieties and livestock breeds, as a reflection of the interests of the scientific institutions connected with agriculture. Thus knowledge on the status of biodiversity at the levels of the species and ecological system is now considerable,



and still increasing. In contrast, there are major shortfalls in knowledge on some systematic groups and a number of areas of the country – including even those known to be valuable from the natural point of view. Knowledge on diversity at the genetic level is also relatively limited.

According to the aforementioned *Polskie studium różnorodności biologicznej*, the total number of species recorded from Poland is of the order of 72–75,000.

Poland has c. 2750 species and subspecies of vascular plant (Mirek *et al.* 1995). The fauna is in turn estimated to include between 33,000 and 45,000 species, among which c. 620 are vertebrates (Andrzejewski and Weigle, eds. 1993). As has been noted above, the specifics to Poland’s location ensure that a great many species reach the limits of their ranges here. This is true, for example, of some 30% of the mammal fauna, 16% of the birds and between 7 and 50% of the invertebrate species (depending on the taxonomic

group) (Andrzejewski and Weigle, eds. 1993). On the other hand, the lack of natural geographical barriers and consequent continuity of habitats across national borders ensure that the country’s flora and fauna are poor in endemic species. Those that are present are mainly montane species associated with the Carpathian and Sudety Mountains as a whole (not merely their Polish parts).

Direct or indirect human impacts have resulted in the retreat or extinction of a number of animal species, including 16 vertebrates (like the griffon vulture *Gyps fulvus*, great bustard *Otis tarda* and golden plover *Pluvialis apricaria* among the birds; the aurochs *Bos primigenius*, European mink *Mustela lutreola* and European suslik *Spermophilus citellus* among the mammals, the common sturgeon *Acipenser sturio* as the only fish and the green lizard *Lacerta viridis* as the single lost reptile). More than 60% of these species have been lost over the last 40 years. Among invertebrates to have become extinct here are the freshwater pearl mussel *Margaritifera margaritifera*, a declining and endangered species across Europe. Certain marine fish species have disappeared entirely from Polish waters (as with the Allis shad *Alosa alosa*, fifteen-spined stickleback *Spinachia spinachia* and four-horned cottus *Oncocottus quadricornis*).

The list of endangered or threatened vertebrate species runs to 111 items (including the brown bear *Ursus arctos*, porpoise, capercaillie *Tetrao urogallus*, Aesculapean snake *Elaphe longissima* and salmon *Salmo salar*). Particularly endangered are the species present in small, isolated populations, including those of an endemic or relict character (as with the Alpine marmot *Marmota marmota*). The total list of animals facing different degrees of endangerment includes 1318 species.

Downward population trends are being noted in the cases of 1648 plant species, while those endangered include 29% of the lichens, 20% of the liverworts and macrofungi, 18% of the mosses and 15% of the vascular plants. It is in turn estimated that some 124 species have become extinct or retreated out of Polish territory in the course of the last 200 years. The *Polish Red Book of Plants* taking in ferns and flowering plants currently includes some 310 taxa, or around 15% of the country’s entire flora. On the list are some 38 species (5 ferns and 38 flowering plants) that have lost all their natural sites in Poland. Some have in consequence been moved to substitute sites, or else into cultivation in botanical gardens (as with the Polish scurvy-grass *Cochlearia polonica*).

Such negative trends to the above changes are typical for all more highly-developed countries.

Nevertheless, Poland differs from other European countries in the fact that its agriculture has remained extensive and fragmented. Local varieties of crops and breeds of livestock have been retained into modern times, the former especially in the south and the mountain and foothills regions of the Beskids and Tatras. The Vistula Valley is now in turn host to programmes for the inventorying and reintroduction of old varieties of fruit tree. Beyond that, single places of occurrence of these varieties have been identified



in the east and south-east, in Polesie region and the Sandomierz Basin. Poland also retains major genetic resources of livestock species, with each still being reared in Poland being represented by between several and some 10–20 breeds. Also noteworthy besides the many valuable native breeds of livestock are breeds of fur-bearing animals and types of the Central European race of the honey bee.

485 plant communities are present in Poland, as described in line with Braun-Blanquet geobotanical principles (Matuszkiewicz 2001), which well characterise the entire (not only higher-plant) diversity of the communities in the terrestrial, freshwater and marine ecosystems.

Taking into account the criterion of frequency of occurrence, it is possible to identify the following categories of plant community within Poland:

- 12% are associations often met with across the country, or over major areas of it,

- 5% are associations not distributed evenly across Poland and hence very common in some regions and not present at all in others,

- 37% are moderately common associations that are present throughout the country or in most regions,

- 24% are moderately common associations present in just some regions,

- 22% are rare associations present at just a few sites.



The role played by plant communities in creating plant cover also varies, such that there are some (38% of the total) forming large-area communities of many hectares (like coniferous forests, agrocoenoses and meadows), and others (21%) that cover just single areas to be measured in m² or dcm² (21%). Communities of intermediate area constitute 41% of those occurring in Poland.

Qualitative and quantitative changes are also being observed at this level of biological diversity. For example, the last several decades have seen 3 of the 280 community types of lowland Poland disappear, while 55 have begun to head for extinction and as many as 130 are endangered. Of particular note among these are the semi-natural biocoenoses disappearing as traditional forms of land management are abandoned.

The diversified relief and variety of soil and climatic conditions ensure that Poland displays highly-differentiated natural landscapes. The traditional

forms of management that have been maintained, especially in the eastern and south-eastern parts of the country, have also allowed for the preservation of important cultural landscapes (e.g. the meadows along the River Biebrza, or the more widespread fine-grained mosaics of fields, meadows and forests).

Geographers have divided Poland's natural landscapes into three classes: lowland, upland and mountain. Within these categories there are further sub-divisions relating to factors like altitude above sea level, landforms and lithological structure (Table 1.2).

Table 1.1. Classification of types of natural landscape in Poland (after Kondracki 2000)

Class:	Class:	Class:
lowland landscapes	upland landscapes	mountain landscapes
Type:	Type:	Type:
coastal landscape	loessial landscape	landscape of the lower mountain forest zone
landscape of water accumulation valleys and plains	landscape of carbonate rocks	landscape of the upper mountain forest zone
young-glacial landscape	landscape of silicate rocks	sub-alpine landscape
old-glacial landscape		alpine landscape

As has been mentioned, the current situation as regards biological diversity and the changes therein results mainly from human activities. Almost all of the latter have precisely identifiable consequences for the environment in which people live. Pressure on nature increases with civilisational

development, and each year brings unfavourable change at practically all of the levels of organisation in nature.

A compilation of the main unfavourable anthropogenic impacts on biological diversity is as presented in Table 1.2.

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Table 1.2. A compilation of the most important unfavourable impacts on biological diversity

Sphere of activity	Threats	Trends in the last decade ¹ (remarks where relevant)	Influence on biological diversity (examples)
Agriculture	An intensification of output from forestry, manifesting itself, <i>i.a.</i> in:		
	<ul style="list-style-type: none"> • an expansion of large-field cultivation (reduction in mosaic character of crop growing) and occupation of new land by crops (including via conversion of grasslands into arable land); 	↑ Marked variability in the intensity of the phenomenon from region to region.	<p>An intensification of production, manifesting itself, <i>inter alia</i> in:</p> <ul style="list-style-type: none"> • confinement in area of natural or semi-natural land, <i>i.a.</i> through disappearance of trees from fields, small bodies of water, boundary strips; • declines in species associated with cultivation (both plants like "weeds" and animals); • isolation of populations of wild species in enclaves within agricultural space; • changes in habitat conditions through enhanced erosion;
	<ul style="list-style-type: none"> • the increased use of plant protection agents; • the increased use of fertilizers; 	↓	<ul style="list-style-type: none"> • declines in species associated with cultivation (both plants like "weeds" and animals); • changes in habitat conditions (eutrophication of habitats), with resultant transformation of ecosystems and the decline of sensitive species – not only those directly linked to cultivation;
	<ul style="list-style-type: none"> • the introduction of new, high-yielding varieties of crop and breeds of livestock, including those modified genetically (GMOs). 	↑ Issue still of marginal importance where officially-registered GMOs are concerned.	<ul style="list-style-type: none"> • disappearance of old, traditional varieties and breeds; • possibility of hybridisation;
	<p>A decline in water resources, <i>i.a.</i> because of:</p> <ul style="list-style-type: none"> • improper melioration leading to the destruction of zones of natural retention; • improper conservation and a lack of repair of objects and installations favouring "small-scale retention". 	↓	<ul style="list-style-type: none"> • changes in habitat conditions (drying-out and soil degradation), with resultant transformation of ecosystems and loss of sensitive species; • disappearance of hydrogenic ecosystems (peatlands, wet meadows, natural riparian ecosystems); • degradation of the landscape.

¹ For explanation of symbols used see end of table.

<i>Sphere of activity</i>	<i>Threats</i>	<i>Trends in the last decade</i> ¹ (remarks where relevant)	<i>Influence on biological diversity</i> (examples)
	Melioration, <i>i.a.</i> in naturally-valuable areas.	↓ ★	<ul style="list-style-type: none"> • changes in habitat and microclimatic conditions and consequent transformation of ecosystems and loss of sensitive species;
	Inadequate protection of valuable aquatic and marshland ecosystems against runoff pollution from fields and stock buildings.	↑ ★	<ul style="list-style-type: none"> • changes in habitat conditions and consequent transformation of ecosystems and loss of sensitive species;
	Changes in water relations (drainage).	↓ ★	<ul style="list-style-type: none"> • changes in habitat conditions (desiccation or inundation) and consequent transformation of ecosystems and loss of sensitive species;
	The cessation of meadow and pasture use.	↑ ★	<ul style="list-style-type: none"> • disappearance of many plant species and communities;
Forestry	<ul style="list-style-type: none"> • Larger timber harvests, including through reductions in cutting ages; • the introduction of fast-growing species irrespective of habitat; • the use of improper methods of management (clear-cutting, deep-ploughing, rigorous slash removal, the pursuit of linear cutting strictly according to plan); • improper shaping of the field-forest boundary; • increased use of fertiliser, and of pesticides in the fight against pests; 	<p>Favourable trends in state-owned forests.</p> <p>Negative trends in private forests (especially overexploitation, a lack of stand tending and a failure to renew stands properly and on time).</p> <p>↓</p> <p>↑</p>	<ul style="list-style-type: none"> • degradation of ecosystems, including through their structural impoverishment; • impairment of the natural resistance of ecosystems; • changes in habitat conditions with consequent transformation of ecosystems and loss of sensitive species;
	<ul style="list-style-type: none"> • the introduction of species of alien origin or even with genetic modifications; 		<ul style="list-style-type: none"> • hybridisation between native species and species or varieties of alien origin, as well as those representing competition for native species;
	<ul style="list-style-type: none"> • the afforestation of new areas leaving no open space. 		<ul style="list-style-type: none"> • the decline of species typical for non-forest ecosystems; • the elimination of naturally-valuable non-forest habitats;
	Poaching.	↕ ★	<ul style="list-style-type: none"> • declines in populations of certain species; • the development of improper population structures;

<i>Sphere of activity</i>	<i>Threats</i>	<i>Trends in the last decade</i> ¹ (remarks where relevant)	<i>Influence on biological diversity</i> (examples)
Water management and the maritime econom	Hydrotechnical construction work on water-courses, including the building of dams and reservoirs. Coastal construction work on the direct waterline.	↑ ★	<ul style="list-style-type: none"> • The hindering or prevention of the movements of migratory species (fish in particular); • confinement of the area of natural or semi-natural land, including through the disappearance of riparian and island habitats (as important refuges for breeding and migrating birds); • changes in habitat and microclimatic conditions and consequent transformation of ecosystems and loss of sensitive species;
	The pollution of surface and groundwaters as a result of: <ul style="list-style-type: none"> • the discharge of polluted or inadequately treated wastewaters, • surface runoff from fields and the transport network. 	↓ A steady growth in the pressure imposed by motorisation.	<ul style="list-style-type: none"> • changes in habitat conditions as a result of eutrophication, and consequent transformation of ecosystems and loss of sensitive species;
	Excessive exploitation of the Baltic ichthyofauna.	↓	<ul style="list-style-type: none"> • declines in populations of exploited species; • by-catches of marine mammals and birds as well as protected fish;
Industry	Pollution of the environment thanks to: <ul style="list-style-type: none"> • emissions of gases and particulates to the atmosphere, • the discharge of wastewaters, • the dumping of wastes, • noise and radiation. 	↓	<ul style="list-style-type: none"> • changes in ecosystem structure due to eutrophication and acidification, as well as the appearance of specific pollutants – and in consequence the loss of sensitive species;
	Exploitation of resources in the raw state.	↑ ★ Increased output of raw materials.	<ul style="list-style-type: none"> • degradation of the landscape through the creation of spoil heaps and appearance of landslides and subsidences; • changes in habitat conditions (<i>i.a.</i> chemistry) thanks to the winning of raw materials (peat included) and the dumping of waste rock, discharge of minewaters and appearance of subsidence funnels – all leading to the decline of sensitive species and habitat destruction;
	The building of non-conventional power installations.	↑ ★	<ul style="list-style-type: none"> • the destruction of ecological corridors and distortion of landscapes; • reduced numbers of migratory bird species; • hindered movement of species thanks to ecological barriers

<i>Sphere of activity</i>	<i>Threats</i>	<i>Trends in the last decade</i> ¹ (remarks where relevant)	<i>Influence on biological diversity</i> (examples)
Planning and construction	<p>The occupation of open areas:</p> <ul style="list-style-type: none"> • for housing (settlement), industry or tourism-recreation, as well as associated infrastructure, • for development of the transport system and elements of linear infrastructure like transmission systems. <p>Utilisation of the coastal belt and the strengthening of sea defences.</p> <p>A reduction in water resources, <i>i.a.</i> through:</p> <ul style="list-style-type: none"> • increased exploitation of near-surface and deeper-lying groundwater for municipal and industrial purposes. 	↑	<ul style="list-style-type: none"> • confinement in area of natural or semi-natural land; • changes in habitat conditions and consequent transformation of ecosystems and loss of sensitive species; • the hindered spread and movement of species thanks to the establishment of ecological barriers; • the creation of conditions for the spread of new (including alien) species, and the colonization of ecosystems; • the synanthropisation of flora and fauna; • degradation of the landscape;
Transport	Increased intensity of traffic and density of the road network.	↑	<ul style="list-style-type: none"> • changes in habitat conditions as a result of pollution from motorisation, and the consequent transformation of ecosystems and loss of sensitive species; • road kills of animals; • the hindering of animal movements through the creation of ecological barriers;
Tourism and recreation	Uncontrolled development of touristic and recreational base, including especially in naturally-valuable areas.	↑	<ul style="list-style-type: none"> • confinement in area that is semi-natural or natural; • degradation of the landscape, including through sub-standard construction; • synanthropisation of flora and fauna; • changes in habitat conditions through environmental pollution (a lack of such infrastructure as sewerage and treatment plants), with the result that ecosystems are transformed and sensitive species lost;
	Increased penetration by tourists of naturally-valuable areas not geared to accept such traffic.	↑	<ul style="list-style-type: none"> • synanthropisation of flora and fauna; • trampling of vegetation and scaring of animals, with result that ecosystems are transformed and species disappear;

↕ – variable trend;

↓ – downward trend for intensity of phenomenon;

↑ – phenomenon increasing in intensity;

★ – phenomenon important on the local

SELECTED ACTIONS SERVING THE CONSERVATION OF BIOLOGICAL DIVERSITY

In Poland, the tradition as regards the conservation of biological diversity stretches back to the 15th–17th centuries, when royal edicts protecting the yew *Taxus baccata* and aurochs appeared, as well as in the 18th century, when the first attempts at *ex situ* protection were made (in a specially established menagerie) in relation to the by-then already markedly endangered tarpan *Equus gmelini*. The 19th century brought the 1868 Act banning hunting of the Alpine marmot and chamois *Rupicapra rupicapra*, while discussions in parallel brought a suggestion that a National Park in the Tatra Mountains might be established. Further activity to save native species included: the bringing under protection of a major part of the Białowieża Primaeval Forest in 1921, the calling into being of the Białowieża and Pieniny Mountain National Parks in 1932 and the enactment of the first Nature Conservation Act in 1934. Also worthy

of note was the 1925 establishment of the State Nature Conservation Council – a state institution acting as an opinion-giving and advisory body to the government, and the founding three years later of the Nature Conservation League (*Liga Ochrony Przyrody*) as Poland's first nationwide NGO operating in this field. Both the Council and the League were reactivated post-War, while further conservation bodies like the Office of Nature Protection were brought into existence. Protected areas continued to appear, while 1948 brought another Nature Conservation Act that remained in force in this sphere for several subsequent decades.

A practical dimension to the activity in biodiversity conservation is Poland's creation of a system of protected areas and objects. As of the end of 2001 there were 23 National Parks, 1345 Nature Reserves, 120 Landscape Parks, 412 Areas of Protected Landscape,



6448 Areas of Ecological Utility, 102 Documentation Sites and 173 Nature-and-Landscape Complexes. Together these areas cover 33.1% of Poland, representing 2675 m² of protected land per head of the Polish population. In turn, there were 33,781 Monuments of Nature at the end of 2001 (see *Ochrona Środowiska 2002* ("Environmental Protection 2002") from the Central Statistical Office).

The last decade of the 20th century brought a series of programme documents that point unequivocally to the need for the country's natural heritage to be protected. The most significant of these include: *Polityka ekologiczna państwa* (The National Environmental Policy) of 1991 and *II polityka ekologiczna państwa* (the Second National Environmental Policy) of 2000, the Resolution of the Sejm of the Republic of Poland of January 19th 1995 on the introduction of the principle of ecodevelopment, and last but not least the Constitution of the Republic of Poland from 1997. In December 2002, the Council of Ministers gave its approval to *Program wykonawczy do II polityki ekologicznej państwa na lata 2002–2010*



(the Executive Programme to the Second National Environmental Policy for the years 2002–2010), as well as adopting *Polityka ekologiczna państwa na lata 2003–2006, z uwzględnieniem perspektywy na lata 2002–2010* (the National Environmental Policy for the years 2003–2006, with account taken of prospects for the years 2002–2010), which had been devised in line with requirements of the Environmental Protection Law Act, as well as in accordance with the assumptions of the EU's 6th Action Programme on the Environment.

The nature conservation policy being pursued by Poland is in accordance with provisions of the *Convention on Biological Diversity*. One of the requirements thereof is that a strategy for biodiversity conservation be drawn up. In any case, Poland had anticipated the obligations to be enforced in international agreements by devising its own *Strategy*

for the Conservation of Living Natural Resources in Poland in 1991. This set as its main policy aims:

- the maintenance of the fundamental ecological processes and life-support systems,
- the preservation of the genetic diversity of organisms,
- the ensuring of the sustainable use of species and ecosystems.

Also devised in 1991 was *Polskie Studium Różnorodności Biologicznej* (the Polish Biodiversity Study), which indicated the main thrusts to desirable activity in relation to different categories of "valuable" and/or endangered areas and species.

The first plan of action targeted both indirectly and directly at the conservation of biological diversity was contained in the aforementioned *Executive Programme to the National Environmental Policy to 2000*, which was adopted for implementation in 1994. The following year brought the preparation of a first working version of the *National Strategy for the Conservation of Biological Diversity*, while the final strategy and action plan thereto were worked upon



in the years 1996–8, in so doing embracing all sectors of the national economy.

In parallel with the above, actions were taken to improve the legal system. Where nature conservation was concerned, the recent period has seen the enactment and successive amendment of, among others: the Environmental Protection and Management Act 1980, the Inland Fisheries Act 1985, the Nature Conservation Act 1991, the Forests Act 1991, the Spatial Planning Act 1994, the Act on the Protection of Agricultural and Forest Land 1995, the Hunting Law Act 1995, the Animal Protection Act 1997, the Organic Farming Act 2001 and the Environmental Protection Law Act 2001.

All the government departments have also been engaged in intensive recent work to assess the congruence between Polish legislation (*inter alia* on the environment) and the legal regulations that will be



binding on Poland from the moment of its accession to the EU. Particular importance has been attached to spheres of direct relevance to the state of biological diversity like nature conservation, agriculture, forestry, planning and physical development, water management, the maritime economy, tourism, etc. In accordance with the approach being enforced in EU member states, the conservation of biodiversity entails the devising of a comprehensive system of laws, the creation of effective mechanisms for the implementation thereof and checks on compliance, and the making of recommendations concerning education, science, etc.

Under the law currently in force, the main burden of inspiring and coordinating undertakings in regard to the protection of – and combating of threats to – biological diversity, falls upon the Minister appropriate in matters of the environment (nature conservation, forestry, environmental protection and water management).

Recognising the possible impacts on the state of biological diversity and the need for active participation as conservation policy is brought into effect, the units acknowledged as sharing responsibility in this area include:

- The Committee for Scientific Research (science policy),
- The Ministry of National Education and Sport (formal and informal environmental education),
- The Ministry of the Economy, Labour and Social Policy (management of the living resources of the Baltic, developments' environmental impacts, tourism),
- The Ministry of Infrastructure (planning and transport policy),
- The Ministry of Culture (protection of valuable features of the cultural landscape, of which the natural component is also considered an element),

- The Ministry of National Defence (extraordinary threats),

- The Ministry of Agriculture and Rural Development (protection of the gene pools of crop species, livestock animals and fish, as well as of the agricultural areas important in biodiversity conservation),

- The Ministry of Internal Affairs and Administration (putting the law into effect),

- The Ministry of Foreign Affairs (international cooperation over biodiversity conservation),

- The Ministry of Justice (resolving of conflicts).

Also ever more responsible for the conservation and sustainable use of biodiversity are the governmental and local-governmental administrations at regional and local levels, above all – though not solely – within the framework of actions serving environmental protection and spatial planning.

Recent years have seen local, national and also international NGOs of an environmental profile becoming ever more serious and significant partners for the public administration where actions in the name of the conservation of biological diversity are concerned.

Within the framework of Poland's programme for the adoption of the EU acquis, entitled *Narodowy program przygotowania do członkostwa w Unii Europejskiej* ("the National Programme Preparing for Membership of the EU"), Poland linked up with the *NATURA 2000* programme for a European Ecological Network. This sets itself the principal task of creating a system for the effective protection of areas with valuable natural environments, and in this way ensuring the protection of endangered species of plant and animal, as well as whole ecosystems, across Europe. In joining the EU, Poland takes on the obligation of preparing a list of areas to be included within the system.

PART II



*An Action Programme
for the Years 2003–2006*

INTRODUCTION

In line with the assumptions adopted, the **National Strategy for the Conservation and Sustainable Use of Biological Diversity** is developed in an **Action Programme**. The preparation of such a document is also provided for in Article 35, paragraph 2 of the Nature Conservation Act, as well as in Article 6 of the *Convention on Biological Diversity*. The Action Programme indicates particular steps considered crucial if the objectives of the *Strategy* are to be met, at the same time setting out conditions for their implementation precisely.

An assumption has been made that, to ensure cohesion between the present document and the *Strategy*, the tasks contained in the former will be ordered in the same way as the operational goals of the latter. The same division into sectors and subject areas has been retained, relating as these do to the organisation of the governmental administration. Where justified, the obtainment of one given operational goal in the *Strategy* is foreseen to involve several tasks. Objectives that are not reached through implementation of tasks provided for here are expected to be brought into effect in subsequent years, with the aid of successive programmes, most likely devised every 5 years.

Provided in the case of each task are:

- a detailing of the priority assigned to implementation, assuming that 1) denotes tasks whose implementation is obligatory; 2) those whose implementation is recommended; and 3) those whose implementation is proposed (but in the main left dependent on the available financial, organizational and substantive possibilities and capacities);
- a pinpointing of the organisational units responsible for implementation, in most cases the relevant Ministry or units subordinated thereto (tasks of a regional dimension are taken to be the responsibility of either the provincial or regional administrations in the voivodships);
- an indication of the subjects that might participate in task implementation, where the term “scientific units” is taken to include all those engaged

in research and development work, and hence scientific institutes and institutions, R&D units, higher education establishments, consultancies and other service-sector firms, associations, learned societies and other organisations; while the term “planning units” has a similar breadth of meaning and the term “nature conservation services” refers to the rele-



vant employees in Voivodship Offices, National and Landscape Parks;

- a detailing of the desired completion dates (while this Programme was devised for the four-year period 2003–6, certain tasks are of a long-term nature and will continue in later years; others are tasks perforce assigned to later Programmes on account of the limited means available at present);
- an estimate of the costs of task implementation, with these mostly relating to the amounts of time consumed in the work on them (since the majority of undertakings do not actually involve specific developments);
- an indication of potential sources of funding, be these budgetary amounts at the disposal of different government departments or extra-budgetary resources.

The activities given herein are associated with information of a purely indicative, directional, nature. It is clear that each will need to be worked on in a detailed plan to be drawn up by government departments and ministries or other bodies of the central administration with the given remit.

Estimated costs of bringing about all the actions listed for 2003–6 are 110,640,000 PLN, of which means from the central budget are to account for 20,135,000 PLN. The breakdown of costs by year and source are as detailed in the following table. The scope of work and corresponding costs will be set

out successively as work on implementing the Action Programme proceeds. Different ministries and subjects indicated in the Programme should seek to ensure that the necessary sums are available for implementation of the Strategy in the different financial years.

Costs of planned actions in the years 2003–2006 ('000 PLN)

Year	Budget		Local authorities	Funds for Environmental Protection	State Forests	EU assistance funding	Other sources
	Ministry of the Environment	Other ministries					
2003	240	3 950	500	5 660	700	22 425	250
2004	840	4 855	500	8 030	950	10 600	390
2005	615	4 285	500	7 910	950	10 525	605
2006	590	4 460	500	7 680	825	10 400	605
Total	2 285	17 850	2 000	29 280	3 425	53 950	1 850



The monitoring and supervision of tasks included within the Programme, and the assessment of the degree to which the *Strategy's* objectives are being attained, will require the organisation and introduction of a consistent and effective system. This should allow for successive assessments of progress with and results of work undertaken, as well as providing for the quickest possible identification of any possible threats to the timely implementation of tasks and the causes thereof, at the same time making it possible for rapid and constructive responses to be mounted. In all of this the organisational strengthening of the nature conservation services is a must, both at national level (within the Ministry of the Environment or Office of the Chief Nature Conservator therein, if such is established) and in the regions/provinces (via Voivodship Nature Conservators), and at local level. It is planned that there be a symposium held each year to assess implementation of the Action Programme, as well as – at the end of each successive 5-year period – a fuller periodic assessment of what has or has not been achieved.

List of abbreviations and acronyms used in the Action Programme:

Priority: !!! – task which must be completed
!! – task whose completion is recommended
! – task whose completion is proposed

ARiMR	<i>Agencja Restrukturyzacji i Modernizacji Rolnictwa</i> (Agency for the Restructuring and Modernisation of Agriculture)
AWRSP	<i>Agencja Własności Rolnej Skarbu Państwa</i> (Agricultural Property Agency of the State Treasury)
BULiGL	<i>Biuro Urządzania Lasu i Geodezji Leśnej</i> (Office of Forest Management and Survey)
CHM	Clearing House Mechanism
EAZA	<i>Europejska Unia Ogrodów Zoologicznych i Akwariów</i> (European Association of Zoos and Aquaria)
GDDKiA	<i>Generalna Dyrekcja Dróg Krajowych i Autostrad</i> (General Directorate of National Routes and Motorways)
GIOŚ	<i>Główny Inspektorat Ochrony Środowiska</i> (Central Environmental Protection Inspectorate)
IHAR	<i>Instytut Hodowli i Aklimatyzacji Roślin</i> (Plant Breeding and Acclimatization Institute)
IOŚ	<i>Instytut Ochrony Środowiska</i> (Institute of Environmental Protection)
KBN	<i>Komitet Badań Naukowych</i> (Committee for Scientific Research)
KCHZ	<i>Krajowe Centrum Hodowli Zwierząt</i> (National Animal Breeding Centre)
LP	<i>Lasy Państwowe</i> (“State Forests” National Forest Holding)
MENiS	<i>Ministerstwo Edukacji Narodowej i Sportu</i> (Ministry of National Education and Sport)
MGPiPS	<i>Ministerstwo Gospodarki, Pracy i Polityki Społecznej</i> (Ministry of the Economy, Labour and Social Policy)
MI	<i>Ministerstwo Infrastruktury</i> (Ministry of Infrastructure)
MK	<i>Ministerstwo Kultury</i> (Ministry of Culture)
MON	<i>Ministerstwo Obrony Narodowej</i> (Ministry of National Defence)
MRiRW	<i>Ministerstwo Rolnictwa i Rozwoju Wsi</i> (Ministry of Agriculture and Rural Development)
MŚ	<i>Ministerstwo Środowiska</i> (Ministry of the Environment)
MZ	<i>Ministerstwo Zdrowia</i> (Ministry of Health)
NBZGR	<i>Narodowy Bank Zasobów Genowych Roślin</i> (National Plant Genetic Resources Bank)
NGO	Non-Governmental Organizations
ODR	<i>Ośrodek Doskonalenia Rolniczego</i> (Centre of Agricultural Improvement)
PAN	<i>Polska Akademia Nauk</i> (Polish Academy of Sciences)
PZŁ	<i>Polski Związek Łowiecki</i> (Polish Hunting Union)
RCSS	<i>Rządowe Centrum Studiów Strategicznych</i> (Government Centre for Strategic Studies)
RZGW	<i>Regionalne Zarządy Gospodarki Wodnej</i> (Regional Water Management Boards)
SOZiA	<i>Stowarzyszenie Polskich Ogrodów Zoologicznych i Akwariów</i> (Association of Polish Zoological Gardens and Aquaria)
UMiRM	<i>Urząd Mieszkalnictwa i Rozwoju Miast</i> (Office for Housing and Urban Development)
UE	<i>Unia Europejska</i> (European Union)
WIOŚ	<i>Wojewódzki Inspektorat Ochrony Środowiska</i> (Voivodship Environmental Protection Inspectorate)
WZMiUW	<i>Wojewódzki Zarząd Melioracji i Urządzeń Wodnych</i> (Voivodship Melioration and Water Installations Board)

No	Task	Priority	Unit responsible	Participants	Implementation period	Estimated implementation costs	Potential sources of funding	Notes
THE "ENVIRONMENT" SECTOR								
<i>Sphere of "Nature and Landscape Conservation"</i>								
<i>The conservation of the genetic resources of wild species</i>								
1	The drawing up of national and regional lists of species with threatened gene pools, as an element of Red Lists of species endangered in the wild state.	!!!	MŚ, voivods	Scientific units, Nature conservation services	2003	100,000 PLN	NFOŚiGW, WFOŚiGW	Continuation of actions taken nationwide. Regional lists of species are lacking.
2	Assessment of the effectiveness to date with protecting species of threatened gene pools.	!!!	MŚ	Scientific units, Nature conservation services	2004	50,000 PLN	MŚ	
3	The devising of programmes for the <i>in situ</i> and <i>ex situ</i> protection of species whose gene pools are most threatened.	!!!	MŚ	Scientific units, Nature conservation services, botanical gardens and zoos	2004 – 2005	200,000 PLN	NFOŚiGW	
4	Implementation of programmes for the conservation of species with threatened gene pools.	!!!	MŚ, voivods	Nature conservation services, botanical gardens, zoos, scientific units, LP and NGOs	continuous work	500,000 PLN a year	NFOŚiGW, WFOŚiGW, Ekofundusz, GEF	
5	The devising of principles by which to designate, re-establish, protect and strengthen ecological corridors.	!!	MRiRW, MŚ	Scientific units and NGOs	2004 – 2005	100,000 PLN	NFOŚiGW	

No	Task	Priority	Unit responsible	Participants	Implementation period	Estimated implementation costs	Potential sources of funding	Notes
6	The devising and introduction of procedures permitting the collection of wild animal species, with account taken <i>i.a.</i> of the requirement that units running such collections meet European standards.	!!!	MŚ, voivods	SOZiA, units running collections	2003 – 2004	50,000 PLN	MŚ	Adjustment of the Animal Protection Act to EU requirements.
<i>The protection of threatened and endangered species</i>								
7	Verification of national lists of protected, game and endangered (Red List) species.	!!!	MŚ	MŚ, MRiRW, nature conservation services, scientific units, botanical gardens and zoos, PZŁ and NGOs	continuous work	10,000 PLN a year	MŚ	Verification should be based on the results of monitoring.
8	The devising of regional lists of protected species and of endangered "Red List" species.	!!	voivods	Nature conservation services, scientific units, botanical gardens and zoos, PZŁ and NGOs	2004 – 2005	100,000 PLN	WFOŚiGW	
9	Publication of verified "Red Books" bringing together data on endangered species.	!!!	MŚ	MŚ, scientific units	2006	200,000 PLN	NFOŚiGW, WFOŚiGW	
10	The devising of programmes to protect selected protected species, in particular those endangered or threatened.	!!!	MŚ, voivods	Nature conservation services, scientific units, botanical gardens and zoos and NGOs	2004 – 2006	100,000 PLN a year	KBN, NFOŚiGW	At both the national and regional levels.

No	Task	Priority	Unit responsible	Participants	Implementation period	Estimated implementation costs	Potential sources of funding	Notes
11	Implementation of programmes to protect selected protected species, in particular those endangered or threatened.	!!!	MŚ, voivods	MRiRW, nature conservation services, scientific units, botanical gardens, zoos, LP and NGOs	2004 – 2006	500,000 PLN a year	NFOŚiGW, Ekofundusz, KBN, LP	With particular attention pair to re-introduction programmes.
<i>The sustainable use of species</i>								
12	The monitoring of game animal populations as a basis for the planning of their breeding and conservation.	!!!	MŚ, LP, PZŁ	LP	continuous work	No costs		Task implemented by the PZŁ (Polish Hunting Union) and State Forests services.
13	Checks on the criteria used in planning culls of animals, in relation to population size nationally and region by region.	!!	MŚ	PZŁ	2003	No costs		Devised by services of the state administration.
14	The devising of principles by which to harvest wild plants and animals for economic needs (collection and sale of fruit, herbs and edible fungi, including fruiting bodies of mycorrhizal species, snails, etc.).	!!	MŚ, LP	LP	2005 – 2006	100,000 PLN	MŚ	These principles – modified at regional level – should define places, times, means and permissible amounts as regards harvested plants and animals.
15	Poland's adoption and bringing into force of the code of good practice where the introduction, transport and exploitation of marine organisms is concerned.	!!	MŚ, MRiRW	MŚ, MRiRW, scientific units	2004	200,000 PLN	NFOŚiGW, Ekofundusz	EU Code of 1994. It is essential that principles for the devising of reports on catches be devised.

No	Task	Priority	Unit responsible	Participants	Implementation period	Estimated implementation costs	Potential sources of funding	Notes
<i>Actions against alien species</i>								
16	The registration and monitoring of alien species and study of the sources and routes of expansion thereof, the influence on native species and ecosystems and the social and economic consequences.	!!	MŚ	MRiRW, GIOŚ, botanical gardens, scientific units, LP, PZŁ, NGOs and National Parks	continuous work	200,000 PLN a year	KBN, NFOŚiGW, GIOŚ	
17	The devising of principles and a programme in regard to alien species, and particularly those most endangering native resources of biodiversity, including the prevention of introductions, elimination, the halting of spread and the control of populations.	!!	MŚ	Scientific units	2004 – 2005	100,000 PLN	MŚ	
18	Implementation of a programme to combat introductions of, eliminate, halt the spread of and check upon alien species posing the greatest threat to native biodiversity resources.	!!	MŚ	MRiRW, MSWiA, botanical gardens, scientific units, LP, PZŁ, NGOs, National Parks	continuous work	200,000 PLN a year	NFOŚiGW	
<i>Actions in regard to GMOs</i>								
19	Implementation of legal standards, regulatory principles and procedures in regard to the introduction of genetically modified organisms (GMOs) into the environment, as well as their import, export and transit.	!!!	MŚ, MRiRW, MZ	MŚ, MRiRW, MZ	2003	No costs		Act adopted by Parliament, work now ongoing on Ministerial regulations thereto. Tasks performed by services of the state administration.

No	Task	Pri- ority	Unit responsible	Participants	Implementa- tion period	Estimated implementa- tion costs	Potential sources of funding	Notes
20	The devising and introduction of a systems of checks on and monitoring of GMOs introduced into the environment, as well as their influence on biological diversity.	!!!	MŚ, MRiRW	Scientific units	2004 – 2005	200,000 PLN a year	NFOŚiGW	
<i>Actions against "conflict" species</i>								
21	Assessment of the degree to which "conflict" species impact negatively on the economy.	!!	MŚ	Nature conservation services, MRiRW, NGOs, scientific units	2003 – 2004	100,000 PLN	NFOŚiGW	
22	The devising and implementation of procedural principles as regards conflict species, <i>i.a.</i> with a view to finding ways to minimise damage.	!!	MŚ, voivods	Nature conservation services, MRiRW, NGOs, scientific units	2004 – 2005	100,000 PLN	MŚ	
<i>The protection of habitats and ecosystems</i>								
23	The devising of a national Red List of plant communities and biotopes of special concern.	!!!	MŚ, voivods	Nature conservation services, scientific units	2005 – 2006	200,000 PLN	NFOŚiGW	
24	The perfecting, devising and introduction of principles in regard to the protection and management of natural and semi-natural communities, especially those of a coastal, riparian, marshland, floodplain, mountain or boreal character.	!!!	MŚ, MRiRW, voivods	Scientific units, LP, nature conservation services, ODR	2006	200,000 PLN	NFOŚiGW, WFOŚiGW	

No	Task	Priority	Unit responsible	Participants	Implementation period	Estimated implementation costs	Potential sources of funding	Notes
25	The designation of naturally-valuable areas used in agriculture and fisheries and of so-called naturally sensitive areas, and the devising of principles for that utilisation.	!!	MŚ, MRiRW, voivods	Nature conservation services, scientific units, local authorities, NGOs	2004 – 2006	300,000 PLN	MŚ, MRiRW, NFOŚiGW	Task should be implemented in connection with work on <i>Natura 2000</i> and the National Agro-Environmental Programme.
26	The devising of targeted project for the National System of Protected Areas.	!!!	MŚ, voivods	Nature conservation services, scientific units and NGOs	2003	2,200,000 PLN	NFOŚiGW	Verification should take account of the results of a natural valuation of the country, including from the point of view of designating the <i>Natura 2000</i> system, as well as the criterion of representativeness for particular geographical/natural regions of Poland.
27	The proposing of areas for inclusion within the <i>Natura 2000</i> network.	!!!	MŚ, voivods	Nature conservation services, scientific units, NGOs	2003	500,000 PLN + EU aid	NFOŚiGW	
28	The drawing up of practical principles for the implementation of the EU's Wild Birds and habitats Directives, as these concern areas whose inclusion with <i>Natura 2000</i> is anticipated.	!!!	MŚ, voivods	Nature conservation services, MRiRW, ODR, LP, scientific units	2003 – 2004	100,000 PLN	PHARE	
29	The devising of programmes for the management of prospective <i>Natura 2000</i> areas.	!!!	MŚ, voivods	Nature conservation services, LP, scientific units	2003	12,000,000 PLN	PHARE	
30	The inventorying of degraded wetland ecosystems.	!!	MŚ, voivods	Nature conservation services, LP, scientific units and NGOs	2004 – 2006	800,000 PLN	NFOŚiGW	

No	Task	Priority	Unit responsible	Participants	Implementation period	Estimated implementation costs	Potential sources of funding	Notes
31	The devising of model programmes for the protection and or renaturalisation of degraded wetland ecosystems.	!	voivods	Nature conservation services, scientific units, NGOs	2005 – 2006	300,000 PLN	NFOŚiGW	
32	The establishment of a system of marine protected areas of key significance in preserving the biological diversity of the most valuable areas of the Baltic and its shoreline.	!!!	MŚ	MŚ, MRiRW	2004 – 2006	500,000 PLN	NFOŚiGW, WFOŚiGW	Taking account of the rising development pressure (re. wind farms, gas pipelines). A task jointly with the "maritime economy" sector.
<i>The "Forestry" sector</i>								
33	The devising and implementation of principles as regards biodiversity conservation in forestry work.	!!	MŚ	LP, scientific units	2004 – 2005	200,000 PLN	MŚ, LP	Requirement that biodiversity conservation be taken account of in all types of use made of forests.
34	The perfecting of silvicultural principles so as to enrich the species composition of trees and shrubs in line with the potential natural vegetation of given habitats.	!!	LP	LP, BULiGL	2004 – 2005	200,000 PLN	LP, NFOŚiGW	Verification of silvicultural principles in the State Forests.
35	The steady improvement of instruction and conservation programmes in Forestry Districts, in regard to tasks under international conventions and agreements, as well as EU Directives.	!!	MŚ, LP	LP, BULiGL	continuous work	100,000 PLN a year	LP	
36	The perfecting of instructions as regards the devising of forestry plans, in line with the need to protect overall biodiversity, including that of non-forest ecosystems.	!!!	MŚ	LP, scientific units, BULiGL	2004 – 2005	100,000 PLN	NFOŚiGW, LP	Concerns unforested land and land whose protection is anticipated, like forest lakes, mires, clearings.

No	Task	Priority	Unit responsible	Participants	Implementation period	Estimated implementation costs	Potential sources of funding	Notes
37	The perfecting of guidelines as regards the setting of forest-field boundaries, in regard to the need to protect biological and landscape diversity.	!!!	MRiRW	MRiRW, scientific units	2003	100,000 PLN	MRiRW	
38	The establishment of a forestry advisory system to support the implementation of programmes to reafforest farmland.	!!!	MRiRW, MŚ	MRiRW, MŚ	continuous work	100,000 PLN a year	MRiRW, MŚ, EU funds	
39	The continuation of State Forests' actions to raise society's ecological awareness and knowledge.	!	LP	LP together with the nature conservation services, NGOs	continuous work	200,000 PLN a year	NFOŚiGW, WGOŚiGW, LP	<i>Inter alia</i> by expanding the process by which forest and ecological exhibition rooms and nature trails are set up, as well as via radio and TV broadcasts.
40	The supplementing of indications concerning the devising of a simplified forest management plan with issues relating to biodiversity conservation.	!!!	MŚ	Voivods, scientific units	2004	200,000 PLN	NFOŚiGW	Concerns non-state-owned forests.
<i>Sphere of "geological resources and raw-materials management"</i>								
41	The devising of pattern documentation for areas of the extraction of geological raw materials, with account being taken of biodiversity conservation issues.	!!	MŚ	Geological enterprises, scientific units	2005	50,000 PLN	NFOŚiGW	
42	The devising of principles for the conservation and use of native biological diversity in programmes for the reclamation of areas degraded by mineral extraction.	!	MŚ	Scientific units, NGOs	2005	100,000 PLN	MŚ, NFOŚiGW	

No	Task	Priority	Unit responsible	Participants	Implementation period	Estimated implementation costs	Potential sources of funding	Notes
<i>Sphere of "promotion and education"</i>								
43	The updating and development of a generally-accessible (Internet) database on biological diversity, its dissemination and promotion, including as an important aid to different kinds of planning work.	!!	MŚ	MŚ, scientific units, KCHZ, GIOŚ	continuous work	100,000 PLN a year	MŚ, NFOŚiGW	Task will in particular involve the existing databases of the IOŚ, IHAR, KCHZ and others integrated within the CHM.
44	The devising of an information and education programme on biodiversity conservation for tourists and those providing services	!!	MŚ	MŚ, MRiRW, MGPIPS, MENiS, MK, scientific units, KCHZ	2004	200,000 PLN	NFOŚiGW	Within the framework of the programme supporting rural tourism, in line with Council Decision 92/421 on Community action concerning tourism.
<i>Sphere of "nature monitoring"</i>								
45	Perfecting of the substantive, methodological and organisational principles underpinning the monitoring of biodiversity, <i>i.a.</i> with account taken of the need to monitor <i>Natura 2000</i> protected areas and the implementation sites of agro-environmental programmes.	!!	MŚ, GIOŚ, MRiRW	MŚ, GIOŚ, scientific units, KCHZ, WIOŚ, nature conservation services, ODR	continuous work	10,000 PLN a year	NFOŚiGW, GIOŚ	Account needs to be taken of the already operating part-programmes of monitoring. The introduction of nature monitoring was begun by GIOŚ in 1999.
46	The implementation of nature monitoring with account taken of tasks in line with international obligations.	!!!	MŚ, MRiRW, GIOŚ	GIOŚ, scientific units	continuous work	2,000,000 PLN a year	NFOŚiGW,	
47	The devising and introduction of a set of indicators of biodiversity.	!!!	MŚ	MŚ, GIOŚ, scientific units	2004 – 2005	100,000 PLN	MŚ, NFOŚiGW	

No	Task	Priority	Unit responsible	Participants	Implementation period	Estimated implementation costs	Potential sources of funding	Notes
THE "WATER MANAGEMENT" SECTOR								
48	The devising – under basin-based management plans – of proposals to improve water resources and of actions allowing for the renaturalisation of devastated river valleys (peatlands, marshes and oxbows).	!!	MŚ, MRiRW	RZGW, scientific units, NGOs, LP	2005 – 2006	300,000 PLN	MŚ, NFOŚiGW	
49	The identification and inventorying of threats to biodiversity in the main rivers.	!!	MŚ, MRiRW	Scientific units	2004 – 2006	500,000 PLN	NFOŚiGW	
50	The devising and introduction of programmes to improve the water balance in forests.	!!	MŚ	Scientific units	continuous work	500,000 PLN a year	NFOŚiGW	
51	The devising and introduction of a plan to improve or reinstate possibilities for the free movement of fish in selected rivers.	!!	MRiRW	Scientific units, RZGW	2004 – 2006	500,000 PLN a year	NFOŚiGW	
52	The introduction and pursuit of principles for the grassland-centred management of agricultural land within floodbanks.	!!	MŚ, MRiRW	Local authorities, planning units, WZMiUW	2003 – 2005	100,000 PLN	NFOŚiGW	
THE "AGRICULTURE", "RURAL DEVELOPMENT AND "AGRICULTURAL MARKETS" SECTORS								
53	The devising of a national strategy and action plan for the conservation of biological diversity.	!!!	MRiRW	Scientific units, KCHZ, MRiRW, ODR	2004	100,000 PLN	MRiRW	The Strategy takes in the protection of agroecosystems under human exploitation, the genetic resources of crops and livestock and the wild species and communities representing a functional element of agroecosystems.

No	Task	Priority	Unit responsible	Participants	Implementation period	Estimated implementation costs	Potential sources of funding	Notes
54	The drawing up and issuing of relevant acts of law upon which the <i>ex situ</i> protection of crop genetic resources can be based, and the recognition that these resources are part of the national heritage.	!!!	MRiRW	MRiRW, MŚ	2003 – 2004	200,000 PLN	MRiRW	The fulfilment of obligations under international agreements and actions in the name of European integration. Amendment of the Seed Science Act.
55	The devising and introduction of programmes for the protection of the native genetic resources of livestock animals and farmed fish.	!!!	MRiRW	KCHZ and whoever runs the livestock stud book	2005 – 2006	200,000 PLN	MRiRW	
56	Inventorying and collection of the resources of old and local crop varieties and associated weed species in danger of extinction.	!!	MRiRW	Scientific units and botanical gardens	2004 – 2006	300,000 PLN	NFOŚiGW PHARE	Inventorying is at present being done as part of existing programmes. c. 40% of Poland has been checked, and the work will need continuing.
57	Establishing of a National Bank for Plant Genetic Resources (NBZGR).	!!!	MRiRW	MRiRW, MŚ	2004 – 2005	No costs		The basic function of the NBZGR is to coordinate the work of a number of units and to offer institutional support for <i>ex situ</i> conservation. Costs to 2005 cannot be anticipated because the task to 2005 only includes the devising and issuing of a relevant Act.
58	The drawing up of a national programme for the protection of populations of endangered native breeds of livestock and types of farmed fish.	!!!	MRiRW	KCHZ	2003 – 2005	300,000 PLN	MRiRW	The Programme should detail the methods to be applied in regard to a given breed and the minimum population sizes needing to be maintained <i>in situ</i> , as well as indicating the scope in the preservation of genetic material in <i>ex situ</i> banks.
59	The <i>in situ</i> maintenance of herds and flocks, <i>i.a.</i> through the devising and introduction of agroenvironmental programmes.	!!!	KCHZ and those running livestock studbooks	Owners of flocks and herds	continuous work	2,500,000 PLN a year	MRiRW	An annual increase in costs as the populations of species within the programmes increase.

No	Task	Pri- ority	Unit responsible	Participants	Implementa- tion period	Estimated implementa- tion costs	Potential sources of funding	Notes
60	Task execution as regards conservation programmes for populations of endangered native races and breeds of livestock.	!!!	KCHZ	KCHZ and implementers of programmes	continuous work	1,000,000 PLN a year	MRiRW	Possible growth in line with need, e.g. into a programme protecting honeybees, assessment of the vitality of horses, etc.
61	The formal designation of the institution running <i>ex-situ</i> banks for livestock species	!!!	MRiRW	MRiRW	2003 – 2004	–		
62	Inventorying of resources preserved in existing <i>ex situ</i> banks.	!!!	KCHZ	Those running <i>ex situ</i> banks	2004	60 000 PLN	MRiRW	An analysis of the biological value of the frozen material is needed.
63	The devising of a programme of <i>ex situ</i> conservation for selected native breeds and types of livestock.	!!!	MRiRW	KCHZ, those running the livestock studbook	2004 – 2006	100,000 PLN	MRiRW	
64	The organisation of a teaching collection of native breeds.	!	MRiRW	Scientific units	2005 – 2006	500,000 PLN	MRiRW, extra-budgetary means	The collection will be of the “farm-park” type and serve multiple educational functions.
65	The devising of a code of good agricultural and fishery practice for the conservation of biodiversity.	!!!	MRiRW	Scientific units, NGOs	2003 – 2004	100,000 PLN	PHARE, NFOŚiGW	An extension of the Code of Good Agricultural Practice to include biodiversity issues.
66	The establishment of an advisory system and training programmes for farmers and fishermen where agroenvironmental activity is concerned, including especially as regards organic farming, good agricultural practice and biodiversity conservation.	!!	MRiRW	MRiRW, Scientific units	2004 – 2005	500,000 PLN	PHARE, ARiMR	

No	Task	Priority	Unit responsible	Participants	Implementation period	Estimated implementation costs	Potential sources of funding	Notes
67	The development of a national network of naturally sensitive areas (OPWs), together with programmes for the protection thereof.	!!!	MRiRW	MRiRW, scientific units	2004	500,000 PLN	MŚ, MRiRW, NFOŚiGW	Part of the Plan for the Development of Rural Areas.
68	The implementation of a programme to stimulate the introduction of mid-field areas of trees and shrubs.	!!!	MRiRW, MŚ, voivods, local authorities	ARiMR, local authorities, LP	continuous work	300,000 PLN a year	SAPARD	The Programme has been drawn up. Part of the agro-environmental programme.
69	The implementation of programmes to increase water retention in catchments and to renaturalise hydrological systems, through <i>inter alia</i> the restoration of natural oxbow lakes and lost bodies of water, the protection of flow between ecosystems, and the protection of marshes and areas with bushes and trees as natural retention areas.	!!!	MRiRW, MŚ, voivods, local authorities	RZGW, WZMiUW, ARiMR, local authorities, LP	continuous work	10,000,000 PLN a year	Agro-environment programmes, SAPARD	Taking account of the Agreement between the MŚ, MRiRW, ARiMR and the NFOŚiGW dated 11.04.02. Part of the agroenvironmental programme. Task shared with the "water management" sector.
70	The creation of mechanisms favouring the sale, lease or other transfer of land for conservation purposes.	!!	The Treasury, MRiRW, MŚ, AWRSP	AWRSP	2003	–		Concerns the transfer of land to both NGOs and private individuals.
71	The drawing up and implementation of regulations on the economic dimensions of fish.	!!!	MRiRW, MŚ,	MRiRW, scientific units, NGOs	2004	–		
THE "CONSTRUCTION, PLANNING AND HOUSING" SECTORS								
72	The devising of guidelines as regards the heading of biodiversity conservation issues in planning.	!!!	MŚ, MI	RCSS, local authorities, planning units, NGOs	2004	200,000 PLN	MŚ, MI	

No	Task	Priority	Unit responsible	Participants	Implementation period	Estimated implementation costs	Potential sources of funding	Notes
73	The devising and implementation of programmes for the protection and development of green space in given cities and gminas.	!!	local authorities	local authorities	continuous work	–		Within the framework of local physical development plans and studies of the conditioning and directions to physical development.
74	An analysis taking account of needs as regards the conservation and sustainable use of biodiversity, as a substantive basis to underpin a national planning policy, physical development plans at voivodship level, studies of the conditioning and directions to the physical development of gminas and local physical development plans.	!!!	authorities at voivodship and gmina levels, RCSS	Local authorities, planning institutions	continuous work	500,000 PLN a year	Local authority budgets	As eco-physiographic studies are carried out.
75	The devising of a concept and assumptions as regards a database on biological diversity.	!!	MŚ, MI	MŚ, MI, scientific and planning units, voivods, GIOŚ, LP	2004 – 2006	300,000 PLN	NFOŚiGW, MI	Including work on their functional linkages at different levels (bases at the level of the gmina, voivodship and whole country).
THE "TOURISM" SECTOR								
76	The devising of guidelines as regards making vulnerable areas and objects (including mountains and the seashore) available for tourism, as well as the devising and introduction of a programme for the development of tourist infrastructure in protected areas.	!!	MŚ	Voivodship Marshals (heads of regional administrations), local authorities, scientific units, NGOs	2004	200,000 PLN	NFOŚiGW, WFOŚiGW	Task also relate to forestry and agriculture.

No	Task	Priority	Unit responsible	Participants	Implementation period	Estimated implementation costs	Potential sources of funding	Notes
THE "EDUCATION AND HIGHER EDUCATION" SECTORS								
77	The analysis and verification of binding programme bases for schools at the primary, junior high and higher levels, from the point of view of a fuller treatment of biodiversity conservation and use issues, with a change of approach to the subject matter considered.	!!	MENiS together with MŚ and MRiRW	Scientific units	2004	40,000 PLN	MENiS	Level of costs to be defined in relation to designated limits for 2004 and subsequent years.
78	Verification of teaching standards in different study courses, with particular account being given to the nature-related and agriculture courses, where the consideration therein of issues of biodiversity conservation and use are concerned.	!!	MENiS	Higher Education Council, MENiS, higher education establishments	2004 – 2005	200,000 PLN	MENiS	Level of costs to be defined in relation to designated limits for 2004 and subsequent years.
79	The founding and development of environmental education centres in National and Landscape Parks, selected Nature Reserves and organisational units of the State Forests, as well as where possible in natural history museums, zoos and botanical gardens.	!	MŚ, voivods, local authorities	Local authorities, nature conservation services, LP, NGOs, zoos and botanical gardens, natural history museums	continuous work	2,000,000 PLN a year	NFOŚiGW, WFOŚiGW, Ekofundusz, LP	
THE "SCIENCE" SECTOR								
80	The ranking of research needs as regards the reconnaissance, assessment, protection and shaping of the country's biological diversity, as well as for its use.	!!	MŚ, PAN, KBN	Scientific Committees of the PAN	2003	–		

<i>No</i>	<i>Task</i>	<i>Pri- ority</i>	<i>Unit responsible</i>	<i>Participants</i>	<i>Implementa- tion period</i>	<i>Estimated implementa- tion costs</i>	<i>Potential sources of funding</i>	<i>Notes</i>
81	The establishment of a Scientific Committee on Biological Diversity to the Praesidium of the Polish Academy of Sciences.	!!	PAN	PAN	2004	–		
82	The propagation and popularisation of knowledge derived from the research conducted and monitoring done, including in particular that raising the level of ecological awareness.	!	MŚ, PAN, KBN	MŚ, PAN, KBN, scientific units	continuous work	100,000 PLN a year	KBN, MŚ	
THE “TRANSPORT” SECTOR								
83	The implementation of biodiversity conservation guidelines in the design, building and operation of linear transport developments.	!!	MI, voivods, local authorities	Developers and boards for roads and rail lines	continuous work	–		At all levels of planning.
84	The devising and implementation of principles in regard to the naturalising of roads, including motorways.	!!!	MŚ, MI,	Scientific units, developers and the boards of roads and rail lines	2004 – 2006	200,000 PLN	NFOŚiGW, MI	(e.g. through the appropriate choice of material for planting).
85	The identification of areas (roads) posing a direct and major threat to migratory animal species, and the determination therefor of appropriate limits on vehicular traffic.	!!	MŚ, MI, local authorities	Road Boards, local authorities, scientific units, NGOs, nature conservation services	2004 – 2006	1,000,000 PLN	WFOŚiGW, Ekofundusz, GEF	

No	Task	Priority	Unit responsible	Participants	Implementation period	Estimated implementation costs	Potential sources of funding	Notes
86	The drawing up and introduction of principles in line with which to monitor the influence on biodiversity of the building and operation of motorways and expressways.	!!	MŚ, MI	IOŚ, GDDKiA	2004 – 2006	200,000 PLN	NFOŚiW, non-budgetary means	Assumptions in the monitoring of motorways are now being worked on.
THE "MARITIME ECONOMY" SECTOR								
87	The drawing up an implementation of special programmes to protect declining species (including marine mammals, near-shore fish and macrophytes).	!!	MŚ	MRiRW, MI, scientific units, NGOs	continuous work	40,000 PLN a year	NFOŚiGW	
88	The limitation or cessation of resource-exploitation in selected parts of the Baltic, in connection with the establishment of a system of marine protected areas of key significance to the preservation of biodiversity.	!!!	MŚ, MRiRW, MGPIPS, RCSS	fishing firms and others exploiting marine resources, Government Centre for Strategic Studies, scientific units	2006	–		Task shared with the "habitats and ecosystems" sphere.
THE "ECONOMY" SECTOR								
89	The devising of principles by which to protect biodiversity as power-supply installations are planned, built and operated.	!!	MŚ, MGPIPS	scientific units	2005	100,000 PLN	MŚ, NFOŚiGW	Taking account, <i>i.a.</i> of the elimination of ecological barriers and traps, including via the identifying of powerlines along bird migration routes,, the limitation of thermal pollution and the collection of bottom sediments in tanks.

No	Task	Priority	Unit responsible	Participants	Implementation period	Estimated implementation costs	Potential sources of funding	Notes
90	The devising and implementation of technically and economically justified programme to limit pollutant emissions to the environment from the energy sector.	!!	MŚ, MGPIPS	MŚ, MGPIPS, scientific units	2006	500,000 PLN	MŚ, MGPIPS	
THE "NATIONAL DEFENCE" SECTOR								
91	Inventorying of natural resources in areas managed by the Armed Forces, and identification of threats to nature.	!!	MŚ, MON	scientific units	2004 – 2006	500,000 PLN	MON, NFOŚiGW, WFOŚiGW	
92	The devising and introduction of principles for biodiversity conservation on land used by the Armed Forces.	!!	MŚ, MON	MŚ, MON	2003 – 2004	100,000 PLN	MŚ, MON	
COORDINATING IMPLEMENTATION OF THE ACTION PROGRAMME								
93	Organising of annual meeting on extent of implementation of Action Programme to the <i>National Strategy for the Conservation and Sustainable Use of Biological Diversity</i> .	!!!	MŚ	All subjects taking part in implementation	every year	–		
94	Devising of periodic assessments of extent of implementation of Action Programme.	!!	MŚ	All subjects taking part in implementation	every year	50,000 PLN	NFOŚiGW	
95	Devising of the <i>Action Programme</i> for the next 5-year period.	!!!	MŚ	All subjects taking part in implementation	2006	200,000 PLN	NFOŚiGW	

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