EC Law and Biodiversity

How to save Noah's Ark

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The term biodiversity itself was not coined until the 1980s, when it was popularised by the eminent Harvard biologist Wilson. Biodiversity entails at the macro level ecosystemic diversity (ecosystems and landscapes), specific diversity (the species of plants, animals and micro-organisms that surround us) and at the micro level it includes genetic diversity.

Although less marked than on other continents, Europe's systemic diversity displays a number of particular characteristics. However, Europeans should seriously fear for the future of their wildlife. Indeed, many wild fauna and flora species today are passing through a period of major crisis. As most natural or semi-natural, continental and coastal ecosystems are now undergoing significant modifications as a result of human activity (fragmentation, isolation, intensification,…), animal and plant species are suffering an unprecedented rate of extinction. To make matters worse, this negative trend is compounded by an array of additional threats (poaching, excessive hunting, disturbance inflicted by tourism, collision of birds with power-lines). Last, on a more global scale, global warming and the depletion of the ozone layer risk precipitating much more profound changes to the distribution, structure and functions of European ecosystems.

Given that this issue has been identified as a pressing concern by the EC institutions, the aim of the present article is to highlight the different strategies, plans and programs as well as the main directives and regulations that were enacted with the aim of conserving biodiversity.

I. Introduction

The term biodiversity itself was not coined until the 1980s, when it was popularised by the eminent Harvard biologist Wilson.[1] The most tangible manifestations of biodiversity are the species of plants, animals and micro-organisms that surround us. Yet biodiversity means more than just species diversity. At the micro level it includes the genetic material that makes up the species, whilst at the macro level it covers natural communities, ecosystems and landscapes.[2] Biodiversity essentially relates to the full array of life on Earth.

In an apparently continuous progression, biodiversity emerged over the course of the geological eras, wending its way through both biological evolution and periods of mass extinction. Such diversification of the living world is made possible by the genetic adaptation of species to environmental changes, whether natural or man-made. Communities themselves evolve on the basis of fluctuations in their environment, according to complex historical processes that explain the present state of the biosphere. The first living beings appeared roughly 3.5 billion years ago in the oceans in the form of primitive bacteria which subsequently diversified

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1 Wilson, E. O., & Petter, F. M., (eds.), Biodiversity, Washington D.C. 1988, p. 521. See also Nagle, J., and Ruhl, J., The Law of Biodiversity and Ecosystem Management, New York 2002.

2 The 1992 CBD defines it in terms of three conceptual levels. According to the CBD, "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".

into the multitude of organisms of every shape and size that are nowadays classified under five kingdoms (animal, plant, fungi, bacteria and protists), each of which is divided into systematic sub-classifications which emerged following the branching out of particular species. Mankind has at present still a long way to go before acquiring a complete knowledge of the species that populate the earth. Whilst about 1,320,000 animal species have been catalogued, scientists estimate the total number of species on earth at more than ten million.[3] This biodiversity is not however distributed evenly across the planet. Generally speaking, on the continents, it increases from the poles toward the equator, whilst in the oceans the increase is much less pronounced, and sometimes operates in reverse. Such an unequal distribution can be explained by climatic, historic and geomorphological factors.

Biodiversity today is passing through a period of major crisis. Most natural or semi-natural, continental and coastal ecosystems are now subject to significant modifications as a result of human activity. Scientists expect that these disruptions will cause an unprecedented drop in the wealth of specific and genetic diversity.

Having said this however, legal regulation has not taken a back seat, especially at the international level. Over the past four decades, international law has been enriched by a raft of conventions and agreements intended to put a stop to this deterioration of the living world. Although they are highly diverse in nature, these rules may be classified under three broad categories, the first covering the exploitation of biological resources, where necessary limiting exploitation to guarantee its continuity (e.g. fishery agreements), the second aiming at protecting the elements of biodiversity (e.g., CITES, CMS and Ramsar agreements), and the third intended to curb processes which affect the biosphere, whether on a global scale or not (e.g., UNFCCC and POPs agreements).[4]

Moreover, the adoption in 1992 of the CBD represented a watershed in the development of the international law on biodiversity.[5] Although it does not codify the existing international law on the conservation of species and ecosystems, it does, as a framework convention,[6] establish the foundations which must underpin both national legislation and subsequent international agreements on the conservation and sustainable use of biodiversity. In addition, it would also constitute an ideal basis for the future regulation of the access to genetic resources and the equitable sharing of benefits flowing from their exploitation. In spite of the criticisms which have frequently been levelled against it – in particular in relation to its utilitarian character and the weak binding force of its arrangements – the CBD constitutes a reference point which, for the first time, covers biodiversity in its entirety. Its dynamic character means that it can preside over the evolution both of international law and the various national laws on biodiversity.

International rules on the conservation of biodiversity are by no means lacking in Europe. An impressive array of international agreements have been adopted both by the Council of Europe and the UNECE.[7] However the existence of so many agreements should not lull us into thinking that all areas of biodiversity are now well protected. Conservation objectives vary from one agreement to the next, such that no harmonisation, even on a geographical level, is assured. Although particular areas of biodiversity are covered well on a continental scale (including migratory or the most endangered vertebrate species, international watercourses, semi-inland seas), others have only recently been brought under international law (landscapes), whilst yet others are practically ignored (micro-organisms or fungi, fundamental ecological processes, animal genetic resources). Finally, only rarely do conventions require the conservation of all wild species, or of all species of the same group (birds, marine mammals).[8]

Finally, some significant geographical disparities are also apparent. While the Bern Convention on the conservation of European wildlife and natural

3 UNEP/WCMC, Global Biodiversity. Earth's living Resources in the 21st century, Cambridge 2000, tables 3(1)(1) & 3(1)(2).

4 For a comprehensive analysis of the trends embedded within international law, see de Sadeleer, N. & Born, C.-H., Le Droit international et communautaire de la biodiversité, Paris 2004, p. 24 ff.

5 McConnell, F., The Biodiversity Convention. A Negociating History, London/The Hague/Boston 1996; Le Prestre, P.G., Governing Global Biodiversity: The Evolution and Implementation of the Convention on Biological Diversity, London 2002; N. de Sadeleer & C.-H. Born, 2004, p. 79 ff.

6 McGraw, D. M., "The CBD – Key Characteristics and Implications for Implementation", R.E.C.I.E.L. 2002, vol. 11, n 1. p. 18 ff.

7 For a complete list of the different agreements protecting biodiversity in force in Europe, see N. de Sadeleer & C.-H. Born, 2004, p. 743 ff.

8 With the exception of the EC 1979 Birds Directive (see below section 5.b).

habitats covers the entire continent, it does not however extend to the whole spectrum of biodiversity. Moreover, if some regions are well covered (Mediterranean Sea, Black Sea, North East Atlantic, Alps, Carpathians, Benelux area), the protection of others is markedly lower (steppes ecosystems, boreal forests) or even inexistent (Arctic region).

One might then wonder whether the implementation of a biodiversity policy under the auspices of European EC law might be likely to offer better protection for ecosystems and species than a highly variegated international law. Indeed, European Community law today extends to 25 Member States and probably more in the years to come. Furthermore, the Commission enjoys specific powers to require Member States to apply the rules of EC law and environmental policy has already cut its teeth in this area.

It should therefore be noted at the outset that, unlike international law, the EC legal acts enacted with a view to protecting biodiversity are not equivalent to either the 1992 Convention on Biological Diversity, or the 1982 Montego-Bay Convention on the Law of the Sea, agreements which laid the basis for conservation regimes covering both inland and marine biodiversity. Moreover, as will be argued below, biodiversity in EC law is covered by relatively heterogeneous legislation, adopted at different times without any general overview and coming in the form of both regulations and directives. Although these rules were normally passed within the context of the Community's environmental policy, they have also resulted from other policies, such as the common agricultural policy, common trade policy or that of the internal market (see below section 3).

The purpose of this article is to take stock of the contribution of EC law to the conservation of biodiversity in Europe. The difficulty is how to describe that amalgam of directives, regulations, plans, and programmes. We will begin our analysis with a brief overview of the present state of biodiversity on our continent (section 2), going on to address the legal basis of the acts enacted with the view to protecting biodiversity (section 3). After a brief look at the political developments taking place in that field (section 4), the focus will shift to both species and habitat conservation measures (section 5), and, last but not least, the regulation of GMOs (section 6).

2. The State of Biodiversity in Europe

On the European continent biodiversity can be categorised on the basis of eleven bio-geographical regions, namely the Arctic, Boreal, Continental, Atlantic, Mediterranean, Macronesian (Madeira, Azores and Canaries) Anatolian (continental Turkey), Pannonian (Caucasus), steppe and alpine.

Although less marked than on other continents, Europe's biological diversity displays a number of particular characteristics.[9] Significant variations in the physical environment (climate, soils, hydrology, winds, topography), the influence of the Atlantic Ocean and the different regional seas, as well as the geological and climatic history of the region (glaciation) have contributed to the evolution of a rich diversity of animal species, ecosystems and natural landscapes on this continent. Various large groups of inland and freshwater ecosystems (forests, moors, brushland and steppes), mountains (rocky outcrops, sands and screes), internal freshwater systems (lakes and rivers), wetlands (peat-bogs, swamps), deserts and tundra (agricultural and artificial ecosystems) span the continent, shaped both by the physical conditions characterising the continent (soils, climate, hydrology, exposure, etc.) and by human activity. The diversity of the European landscape (tundra, taïga, groves, openfields, hilly and mountain landscapes, arid lands or steppes, regional or artificial reclaimed lands, dehesa), is testament to the millennial symbiosis between man and his natural environment.

Today however, biodiversity faces a major crisis at both the global and the European level, the implications of which have still not been fully appreciated. Whereas natural landscapes were characterised by forests prior to the advent of man, they have over time been transformed into artificial or semi-natural landscapes. Increasingly fragmented by transport infrastructures, subject to intensive urbanisation, cultivation or cattle grazing, polluted and eutrophised, the ecosystems degenerate to the lowest common denominator, losing their cultural and natural specificity. For animal and plant species this results in a fragmentation and isolation of their habitats, constituting one of the most seri-

9 For an assessment of the biodiversity in Europe, e.g. Delbaere,B., (ed.), Facts & figures on Europe's biodiversity – State and trends 1998-1999, Tilburg1998, p. 115 ff.

ous threats to their long-term survival. As a result of this, they are suffering an unprecedented rate of extinction on account of the degradation of their habitats, which is only exacerbated by additional threats (poaching, excessive hunting, damage inflicted by tourism). On a more global scale, global warming and the depletion of the ozone layer risk precipitating much more profound changes to the distribution, structure and functions of European ecosystems.

As a result, the number of species deemed by the IUCN to be under threat in Europe runs into the hundreds; 42 % of mammal species (out of a total of 250), 15 % of bird species (total 520), 30 % of amphibian species (total 75), 45 % of reptile species (total 120), 41 % of freshwater fish species (total 190), 12 % of butterfly species (total 575) and about 21 % of plant species (total 12,500) are now considered to be under threat.[10] Important economic benefits could be gone for ever.[11]

3. Legal Basis of the EC Directives and Regulations on the Conservation of Biodiversity

Owing to the cross-cutting character of biodiversity an array of EC policies integrate, in accordance with Article 6 of the EC Treaty, the requirements stemming from a genuine conservation policy. This prompts the question as to whether the directives and regulations dealing with the conservation of biodiversity should be based on other articles of the EC Treaty than Article 175. According to a line of cases of the Court of Justice relating to the competence of EC lawmakers, the choice of the legal basis of an act must be founded on objective elements which can be subject to judicial review. Such elements include, in particular, the aim (for example the conservation of natural habitats) and content of the act (for example the obligation to classify land according to scientific criteria).[12] It is therefore appropriate to distinguish between the criteria which will allow for the enactment of a EC regulation on biodiversity either under Article 175 of the Treaty (environmental matters), Article 37 (CAP), Article 95 (internal market), or Article 133 (common trade policy).

a. Biodiversity and the internal market

It is not the case that every single provision even remotely relating to biological diversity has been passed under the only chapter of the Treaty dedicated to environmental policy (chapter XIX). Article 95 (formerly Article 100A) – which extends horizontally to all measures affecting the establishment and the functioning of the internal market, including those relating to environmental protection (Article 95(3)) – was the basis for the harmonisation of the rules relating to products which represented a danger for the living environment (GMOs, biocides). The fact that some of these harmonising directives also pursued environmental goals did not prevent them from being passed under Article 95 as this provision expressly refers, in the 1st, 3rd and 4th paragraphs, to the protection of the environment. Naturally this provision does not give EC lawmakers any general competence to harmonise national rules on health or environmental matters.[13] However, in the "Biotechnology" case, the Court interpreted the use of Article 95 as a legal basis in a broad sense to cover even those instances where the regulation was not exclusively intended to remove obstacles to the internal market (development of research thanks to better patentability rules in the field of biotechnology).[14]

b. Biodiversity and common trade policy

The scope of this policy has been interpreted in a broad sense and any acts founded on Article 133 of the Treaty can cover environmental aspects on account of the principle of integration. In the Greek Chernobyl case, the Court of Justice upheld the use of Article 113 (now Article 133) to adopt a regulation on the conditions for the importation of agricultural products from outside the European Community following the Chernobyl nuclear disas-

10 See IUCN Species Survival Commission, 2002 IUCN Red List of threatened species.

11 Concerning the industrial, medical and biotechnological benefits from biological resources, see Kate, K. T., and Laird, S.A., The commercial use of biodiversity: access to genetic resources and benefit-sharing, London 1999.

12 Case C-45/86, Commission v Council (1987) ECR 1493, para. 11; Case C-269/97, Commission v Council (2000) ECR I-2257, para. 43; C-36/98, Spain v Council (2001) ECR I-779, para. 58.

13 Case C-300/89, Commission v Council (1991) ECR I-2867; C-155/91, Commission v Council, (1993) ECR I-939.

14 Case C-377/98, Netherlands v Parliament & Council (2001) ECR I-7079.

ter.[15] Although the incorporation of the Cartagena Protocol on Biosafety into the common trade policy (Article 133) could have brought this agreement under the exclusive EC competence relating to common trade policy, recourse to Article 175 implied a Member State competence alongside that of the Community, as the former have retained competence in this area (shared Community competence). Referring to its consistent findings on the objective elements which must found the choice of legal instrument, and which can be subject to judicial review, the Court of Justice indicated in its judgment that the Cartagena Protocol on Biosafety is essentially intended to prevent bio-technological risks and not, as the Commission had argued, to facilitate or regulate the trade in GMOs. The Court placed particular emphasis on the context within which the protocol had been negotiated, namely the Convention on Biological Diversity, going through the Protocol's preamble and provisions with a fine toothcomb in order to establish its basic aim and content. The Commission's argument focusing on the practical difficulties stemming from the implementation of the mixed agreement was not deemed sufficient to tip the balance in favour of Article 113 of the Treaty. Finally, the Court held that the Protocol had to be founded on a single legal basis specific to environmental policy, i.e. Article 175.

c. Biodiversity and the Common Agricultural Policy

It is important to briefly note first that the Court's case law has not furnished any legal test for determining which legal regime takes priority when a measure falls more specifically under either the Common Agricultural Policy (Article 37) or EC environmental policy (Article 175). It is by no means easy to trace the dividing line between the two. Whilst rules limiting the use of drift nets and promoting agro-environmental measures are clearly founded solely on the provisions governing the CAP, even where environmental protection concerns may have contributed to their adoption,[16] provisions specifically relating to environmental policy must be founded on Article 175 of the Treaty (which falls under Title XIX on the environment), even if amongst their objectives is the improvement of agricultural production. The Court confirmed this view when considering a directive on phyto-pharmaceutical products.[17] The same applies to measures to defend forests against the risk of destruction and deterioration caused by fire or atmospheric pollution which fall squarely within the class of environmental actions for which the European Community has competence by virtue of Article 175 of the Treaty.[18]

4. Policy Development

a. Core issues

A real policy of conserving biological diversity is gradually emerging in a series of non-binding acts adopted by EC institutions. These acts can be classified within a pyramidal hierarchy. At the pinnacle lie the various proposals formulated by the European Commission together with the decisions taken by the various "environmental" Councils and European Councils relating to sustainable development and the integration of the environment into other EC policies with the view to implementing Article 6 of the EC Treaty. At an intermediate level are initiatives relating to biodiversity envisaged under the sixth Community action programme for the environment. The pyramid rests on distinctly more precise action programmes adopted by the Commission to promote biological diversity. To this should also be added the numerous sectoral strategies provided for by the 6th action programme which should contribute to the preservation of ecosystems.

b. Instruments dedicated to sustainable development

By inviting the different incarnations of the Council of Ministers (agriculture, transport, energy) to develop their own strategy on environmental integration, the European Council (meeting at Cardiff on 15-16 June 1998) paved the way for coordinated action at Community level on the integration of environmental requirements into the various sectoral policies. It was however necessary to

15 Case C-62/88, Greece v Council (1990) ECR 1527.

16 Case C-405/92, Mondiet (1993) ECR I-6133, paras. 25 ff.; Case C-366/00, Huber (2002) ECR I-1749, para. 33.

17 Case C-303/94, Parliament v Council (1996) ECR I-2943.

18 Joined Cases C-164/97 et C-165/97, European Parliament v Council (1999) ECR I-1139.

await the European Council's meeting in Göteborg on 15-16 June 2001 for the adoption of a Community-wide strategy on sustainable development, by adding an environmental dimension to the existing social and economic considerations (cf. Lisbon strategy). Finally, the European Council, meeting in Brussels on 20-21 March 2003 reiterated the view that sustained growth constituted one of priorities of the Union. Particular "environmental indicators", including the state of biological diversity, should allow for the evaluation of progress made on sustainable development.[19]

c. Sixth environmental action programme

Amongst the main priorities of the Sixth Community action programme for the environment[20] is a declaration aspiring to put an end to the depletion of biodiversity by 2010 in accordance with international commitments as well as "protecting, conserving, restoring and developing the functioning of natural systems, natural habitats, wild flora and fauna with the aim of halting desertification and the loss of biodiversity, including diversity of genetic resources, both in the European Union and on a global scale" (Article 2(2)(ii)). Specific action is announced "on nature and biodiversity", including research, implementation of the Community Biodiversity Strategy, establishment of the Natura 2000 network, fair and equitable division of benefits generated from the use of genetic resources, invasive alien species prevention (Article 6(2)(a)). Further action is also foreseen relating to the sustainable use of the sea and the conservation of marine ecosystems (integrated management of costal areas, Natura 2000) (Article 6(2)(g)), forest ecosystems (certification of sustainable forest management, criminalisation of frauds, climate change) (Article 6(2)(h)) and GMOs (ratification of the Cartagena Protocol on Biosafety) (Article 6(2)(g)). It should however be noted that the objectives are formulated in a relatively vague manner (absence of precise and dated regulatory proposals) and they will therefore have to be interpreted in the light of other types of documents.

d. Programming specific to biodiversity

In order to implement the Convention on Biological Diversity, to which the European Community is party[21] and, more specifically its Article 6 (development of strategies, plans and programs designed to ensure the conservation and the sustainable use of biological diversity and the integration of conservation and sustainable use of biodiversity into the sectoral programmes, plans and policies), the European Commission adopted, in February 1998, a Communication on a Community biodiversity strategy,[22] which was approved by the Council in June 1998 and by the European Parliament in October of the same year.[23] "Aiming to anticipate, prevent and combat at source the marked reduction or loss of biodiversity", this strategy is structured around four principal themes, namely, the conservation and sustainable use of biological diversity, the sharing of the benefits flowing from the exploitation of genetic resources, research into, and identification, monitoring and exchange of biodiversity and, finally, education, training and sensitisation. In accordance with the CBD, this document stresses the need to integrate biodiversity concerns into sectoral policies relating to the conservation of natural resources, agriculture, fishing, regional development, forests, energy, transport, tourism and developmental aid. Finally, the strategy envisages the development of action programmes for the relevant sectoral activities, which in turn must set out specific measures for fulfilling, in each sector, the particular objectives.

The first action programme to be drawn up aimed to promote biological diversity in the area of natural resource conservation and was passed on 27 March 2001.[24] This plan was designed for the protection of wild flora and fauna as well as of ecosystems and habitats on the basis of existing legal arrangements (Birds and Habitats Directives, CITES Regulation). A subsequent action programme for

19 Commission's report to the Council of 20 September 2002, Analysis of the open list of environment-related headline indicators (COM) 2002, 524 final.

20 European Parliament and Council Decision 1600/2002/EC of 22 July 2002 laying down the Sixth Community Environment Action Programme, OJ 2002 L 242.

21 Council Decision of 25 October 1993, OJ 1993 L 309.

22 Communication from the Commission to the Council and to the European Parliament, on a European Community Biodiversity Strategy (COM (1998) 42).

23 Council conclusions of 21 June 1998 and Parliament resolution (A4-0347/98).

24 Communication from the Commission to the Council and the European Parliament of 27 March 2001, COM (2001) 162 final, vol. II.

biological biodiversity in agriculture[25] identifies several priorities including agro-environmental measures, the establishment of an ecological infrastructure over the whole territory of the EC, the diversification of agricultural genetic capital, the marketing of plant varieties and the fight against non-indigenous species. An action programme to promote biological diversity in fishing[26] seeks to preserve and reinvigorate biological diversity where it is threatened by fishing and agriculture activities. Finally, an action programme to promote biological diversity in the area of economic cooperation and developmental aid[27] is under consideration. Such a plan would make significant inroads in the fight against poverty and the reversal trend towards environmental deterioration.

e. Other programs

Other communications and recommendations of the Commission are likely to contribute to the taking of specific action formulated within the framework of the Community Biodiversity Strategy. Such instruments include in particular the Commission communication on integrated coastal zone management (COM (2000) 547) intended to contribute to the protection of coastal wetlands, the communication "Sustainable Urban Development: a framework for action in the European Union" (COM (605) 98) designed to encourage the conservation of biodiversity in urban areas as well as the Commission's communication of 16 April 2002 "Towards a Thematic Strategy for Soil Protection" ((COM 2002) 179 final) which provides for the implementation of a Community soil strategy during the course of 2004 (promotion of organic farming, reforestation, limits on the use of pesticides). Another initiative, set out in the Commission communication of 2 October 2002 on "A Strategy to Protect and Conserve the Marine Environment", also provides for the Sixth action programme, and includes a review of the numerous threats which endanger marine environments (reduction of biological diversity, elimination of habitats, contamination by dangerous substances). The aim of this instrument is to promote the sustainable use of the sea and the conservation of marine ecosystems, in particular in areas of significant value for biological diversity. The communication to the Council and European Parliament on a Forest Strategy for the European Union (COM (1998) 649 final) also covers the conservation of biodiversity.

Last but not least, the 15 ministers responsible for territorial management in the Member States, in an informal meeting at Potsdam on 11 May 1999, adopted the European Spatial Development Perspective (ESDP). The objective of this document is to promote a balanced and sustainable development of the Union's territory through inclusion in the mainstream of European policymaking, without however expanding Community competence in this area. This non-binding document examines the impact of EC policies and their contribution to a balanced and sustainable territorial development, as well as formulating guidelines on natural heritage.

5. Conservation of Species and Ecosystem

Due to the high level of interdependence between the rules on the conservation of habitats and wild species contained in two separate instruments (the Habitats and Birds Directives), this section will discuss the two approaches in tandem.

a. EC obligations under international law

As well as being a party to the CBD,[28] a treaty promoting the implementation of conservation measures in situ (Article 8), the European Community has also signed several international and regional conventions which are more specifically targeted at the protection of the habitats of numerous animal and plant species. The EC is a party to:

- the Berne Convention on the conservation of European wild life and natural habitat;[29]
- the 1982 Geneva Protocol concerning specially protected areas in the Mediterranean;[30]

25 Communication from the Commission to the Council and the European Parliament of 27 March 2001, COM (2001) 162 final, vol. III.

26 Communication from the Commission to the Council and the European Parliament of 27 March 2001, COM (2001) 162 final, vol. IV.

27 Communication from the Commission to the Council and the European Parliament of 27 March 2001, COM (2001) 162 final, vol. V.

28 Council Decision 93/626/EEC, 25 October 1993, OJ 1993 L 309; corrigendum 1994 L 82.

29 Council Decision 82/72/EEC of 3 December 1981 (OJEC, L 38 of 10 February 1982, p. 1; Council Decision, 21 December 1998 (OJEC, L 358, 31 Decembrer 1998).

30 Council Decision 84/132/EEC of 1 March 1984, OJ 1984 L 68.

– the 1991 Salzburg Convention on the protection of the Alps;[31]
– the 1995 Barcelona Protocol concerning specially protected areas and biological diversity in the Mediterranean;[32]
– the 1994 Convention to combat desertification[33].

It is not however party to the European Landscape Convention and the Ramsar Convention, although the Habitats and Birds Directives guarantee the conservation by national authorities of a very large number of marine habitats similar to the Ramsar sites.

b. A two-tier conservationist approach under the Habitats and Birds Directives

Initial efforts on the part of the European Community led to the protection of avifauna with the adoption in 1979 of Directive 79/409/EEC on the conservation of wild birds (hereafter the Birds Directive).[34] The protection of birds was considered by the framers of the directive as a 'trans-frontier environment problem entailing common responsibilities', in particular relating to migratory species which 'constitute a common heritage' (preamble, section 3).

In line with the 1979 Berne Convention on the conservation of European wildlife and natural habitats, the Birds Directive distinguishes between the protection of the habitats of bird species (Articles 3 & 4) and the protection of bird species as such by the regulation of their capture and trade (Articles 5-9). According to its preamble and first article, the objective of the Birds Directive is to ensure the conservation of all species of naturally occurring birds in the wild state in Europe. This conservationist objective manifests itself in an obligation on the Member States to 'take the requisite measures to maintain the population of [bird] species at a level which corresponds in particular to ecological, scientific and cultural requirements, while taking account of economic and recreational requirements' (Article 2).

It is clear on reading this provision that 'ecological, scientific and cultural requirements' are more important than 'economic and recreational requirements', the latter being only of ancillary relevance. In the majority of its judgments, the Court of Justice has re-iterated its position that Article 2 of the Directive does not constitute an additional derogation from the general protection regime, rather being intended as a definition of the ratio legis of the directive, providing an underlying inspiration for its various provisions including in particular the derogatory framework set out in Article 9.[35] This means that Member States cannot invoke Article 2 as a means of evading the obligations imposed by other provisions relating to the protection of habitats laid down by the Directive.

However, the Birds Directive only amounted to a piecemeal approach to the implementation of a policy of conservation of biological diversity because other wildlife was equally deserving of a EC protection regime. Moreover, the need to follow a coherent nature conservation policy, in particular in the light of the seriousness of the threats facing all wild fauna and flora, together with their environments, precipitated a general intervention on the part of the European Community. These various considerations led the European Community to adopt Directive 92/43/EC on the conservation of natural habitats and of wild fauna and flora (hereafter the Habitats Directive).[36] The adoption of this Directive was justified by the fact that it was an 'essential objective of general interest' within the meaning of Article 174 of the EC Treaty,[37] due, on the one hand, to the trans-frontier nature of the problems involved (animals like plants are surely not well acquainted with state borders) and, on the other hand, the Member States' role as guardians of the Community's natural heritage.[38]

Following the example of the Berne Convention on the conservation of European wildlife and natural habitats, the Habitats Directive intended to ensure, other than for winged creatures, the maintenance of biological diversity by requiring the con-

31 Council Decision 96/191/EC of 26 February 1996, OJ 1996 L 61.

32 Council Decision 1999/800/EC of 22 October 1999, OJ 1999 L 322.

33 Council Decision 1998/216/EC of 23 July 1998, OJ 1998 L 83.

34 OJ 1989 L 103. See Wills, W., 'The Birds Directive 15 years Later: a Survey of the Case-law and a Comparison with the Habitats Directive', 6 J.E.L. 1994, p. 219

35 Case C-247/85, Commission v Belgium (1987) ECR I-3029, para. 8; Case C-262/85, Commission v Italy (1987) ECR I-3073; Case C-435/92 Association pour la protection des animaux sauvages et Préfet de Maine-et-Loire et Préfet de la Loire-Atlantique (1994) ECR I-67, para. 20.

36 OJ 1992 L 206.

37 First paragraph of the preamble to the Habitats Directive.

38 See the fourth paragraph of the preamble to the Habitats Directive.

servation of particular natural habitats as well as certain species of wild fauna and flora. Required measures thus operate along a twin track. Member States must, on the one hand, ensure the conservation of natural habitats and species habitats (Articles 2-11), whilst, on the other, protect the species as such by regulating their capture or harvest (Article 12-16).

In contrast with the Birds Directive, the obligation to maintain species in a favourable conservation status does not apply to the whole spectrum of biological diversity, as such a task would indubitably be too arduous. Thus paragraph 2 of Article 2 provides that 'measures taken pursuant to this Directive shall be designed to maintain or restore, at favourable conservation status, natural habitats and species of wild fauna and flora of Community interest', and not all species of wild fauna and flora. This means that the scope of application of the Habitats Directive is restricted to natural habitats and so-called species 'of Community interest' as set out in the Annexes, the adoption of which is decided by a qualified majority vote of the Council of Ministers acting on a proposal of the Commission (Article 19). The Directive does not therefore cover all types of natural habitats and species habitats within the territory of the European Community. This contrasts with the position for the Birds Directive which applies to all Community avifauna.

c. Conservation of Habitats

Species whose habitats are not conserved are condemned to extinction. In this context the linchpin of the Birds and Habitats directives is the Natura 2000 network. Faced with the prospect of Noah's Ark literally sinking, EC lawmakers have afforded specific importance to the conservation of the natural habitats of wild fauna and flora enshrined in two legal instruments.

So-called 'special protection areas' intended to protect wild bird habitats were set up under directive 79/409/EEC on the conservation of wild birds. In tandem with this, directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora, 'special conservation areas' intended to protect particular non-bird habitats of interest must also be classified. Special protection areas and special conservation areas have subsequently been consolidated into one single coherent network called Natura 2000.

Nevertheless, the legal machinery put in place to ensure the conservation of natural habitats is highly complex and understood by only a select elite of environmental law specialists. Given that special protection and conservation areas are subject to distinct yet complementary classification regimes, the two directives overlap to a large extent.[39]

Moreover, there have been considerable delays in the establishment of this network, which is all the less justifiable at a time when the deterioration of many ecosystems is more marked than ever.[40] In addition, many sites of ornithological importance have still not been classified under the Birds Directive adopted in 1979.[41] Furthermore, a significant number important of sites which have been designated appear to be protected only on paper, such as the national parks in the Amazonian rainforest.[42] Nonetheless, over these past years the Commission has not spared any effort in taking court action against recalcitrant States and cutting their subsidies. A difference has also been noted between the Court of Justice's relatively strict interpretation of the texts and the European Commission's apparently more lax view on the granting of derogations for infrastructure projects in protected areas.[43]

d. Conservation of Indigenous Species

Generally speaking, the Birds Directive lays down a general prohibition on the killing, capture, (deliberate) disturbance, retention and commercialisation of bird species, the keeping of protected species as well as the destruction, damage or collection of their nests and eggs (Articles 5 & 6(1)). Furthermore, Article 8 outlaws the use of all means, arrangements or methods to capture or kill on a large or non-selective scale. This regime is however

39 See inter alia the following academic sources: N. de Sadeleer & C.-H. Born, 2004, 481-568; Krämer, L., Casebook on E.U. Environmental Law, Oxford 2002, p. 283 ff.; Krämer, L., EC Environmental Law, 5th ed, London 2003,175 p. 175 ff.

40 The ECJ condemned several Member States for belated implementation measures (Case C-2220/99, Commission v France (2001) ECR I-5831; Case C-67/99, Commission v Irland (2001) ECR I-5757).

41 Case C-202/01, Commission v France (1999) ECR I-11019.

42 Case C-96/98 Commission v France (1999) ECR I-8531.

43 De Sadeleer, N., 'Habitats Conservation in EC Law: From Nature Sanctuaries to Ecological Networks', Yearbook of European Environmental Law, 2005, forthcoming.

not absolute as important exceptions are allowed, in particular relating to marketing (Article 6), hunting (Article 7) and capture (Article 9).

As a result of often passionate reactions from the hunting lobby, particularly in France, the transposition of the Birds Directive into national law and its subsequent application was dogged by its share of difficulties.[44] The Commission has had to take action against several foot-dragging Member States by instigating default proceedings. In the vast majority of judgments handed down by the Court the Commission's position has been vindicated. Moreover, numerous national courts – in particular, the French, Dutch and Belgian Councils of State – have invoked the direct effect of particular provisions of the Directive in order to rule on disputes, especially those concerning hunted species and hunting seasons.

Unlike the 1979 Birds Directive, the 1992 Habitats Directive does not set up a general protection regime for wild animal and plant species living within the EC territory, as the protective measures only apply to a limited number of species of Community interest. Two regimes are provided for, one covering species in need of strict protection (Annex IV) whose capture can only be allowed in exceptional circumstances, and the other covering species whose capture may be subject to management measures (Annex V). However the transposition of this Directive's provisions on species protection has subsequently given rise to numerous difficulties.[45] Of particular concern as regards the Birds Directive is that it has run into resistance on the part of certain Member States.

e. Conservation of Exotic Species

Alongside the United States and Japan, the European Community represents one of the three largest markets for the international trade in wild species. Whilst the first pillar of EC policy on nature conservation consisted of guaranteeing protection to species indigenous to the European Community together with their habitats, the second pillar covers the trade in exotic species imported into the Community. The Community has, first of all, applied the CITES Convention without however having been able to ratify it. It has also, of its own accord, banned the trade in particular large mammal species well-known by the general public (whales, baby seals, furs of major predators), all the time subject to intense pressure from the hunting lobby.[46]

In this context it is important to stress the role of the CITES Regulation (EC) N 338/97 of 9 December 1996 on the protection of species of wild fauna and flora by regulating trade therein, which considerably broadened the scope of application of the CITES Convention within the Community legal order. The regulation classified wild animal and plant species under four annexes, whilst subjecting other species which are not necessarily included in the CITES annexes to control regimes.

6. Conservation of Genetic Diversity

a. The conservation of genetic resources

EC law regarding genetic resources is chiefly concerned with the conservation of varieties of domesticated plants and animals, with little attention being given to wild genetic resources.[47]

Since it did not become a member of the FAO until 1991, the European Community was not party to the 1983 FAO International Agreement on Phytogenetic Resources. On the other hand, it participated in the development of the Bonn guidelines of the CBD on the access to and division of benefits as well as signing, on 6 June 2002, the recent international Treaty on Phytogenetic Resources for Food and Agriculture. As a party to the Convention on Biological Diversity it is also required to take the necessary measures at EC level regarding the access to genetic resources and the sharing of benefits.

On a political level the European Community has only recently broached the issue of genetic resources. Accordingly the fight against the impoverishment of genetic resource diversity constitutes one of the objectives of the Sixth Action programme (2002).[48]

44 For an analysis of the ECJ case law, e.g., N. de Sadeleer & C.-H. Born, 2004, p. 541 ff.

45 See among other cases, Case C-434/01, Commission v UK (2003), not yet reported.

46 See for instance Council Regulation (EEC) No 348/81 of 20 January 1981 on common rules for imports of whales or other cetacean products and Council Directive 83/129/EEC of 28 March 1983 concerning the importation into Member States of skins of certain seal pups and products derived therefrom.

47 N. de Sadeleer & C.-H. Born, 2004, p. 569 ff.

48 Article 2(2), of Decision 1600/2002/EC.

The first measures promoting actions in favour of genetic resources in agriculture and forestry were taken in 1992, within the framework of the agro-environmental regime. The new Regulation (EC) No 1257/1999 on support for rural development from the European Agricultural Guidance and Guarantee Fund (EAGGF) and amending and repealing certain Regulations provides that support may be granted for "ways of using agricultural land which are compatible with the protection and improvement of… genetic diversity" (Article 22(2)). More specifically, support may now benefit farmers involved in the breeding of local animal species native to the particular area which are in danger of extinction (according to the Annex I criteria of Regulation 445/2002), or in the preservation of genetic plant resources which have "naturally adapted to local and regional conditions and [are] under threat of genetic erosion" (applying where appropriate also to forests).

Moreover, a legal framework was established in 1994 to promote specially tailored projects for the conservation, characterisation, collection and use of genetic resources. Stressing the importance of preserving genetic resources in order to preserve the "irreplaceable fund" represented by the biological diversity in agriculture, the Council, on 20 June 1994, adopted Regulation 1467/94/EC on the conservation, characterisation, collection and utilisation of genetic resources in agriculture.[49] The general objective of this Regulation is to "promote the aims of the common agricultural policy and safeguard biological diversity in line with the Convention on Biological Diversity" (1st paragraph of the preamble; Article 1 of Regulation 1467/94), as confirmed by the stated legal basis, namely, Article 37 of the Treaty (common agricultural policy).

b. Management of GMOs

A lively debate has been raging across Europe regarding the risks related to the dispersal into the environment of genetically modified organisms (GMOs), both in relation to ecosystems as well as the integrity of the non-modified or wild stock of the parent species and neighbouring species. Moreover, the Council of Ministers of the environment, meeting on 24 June 1999, imposed a de facto moratorium on the marketing of new GMOs (in line with moratoria decided by several Member States, including Denmark, France, Greece, Italy, Luxemburg and, since 2001, Austria) in the absence of clear rules on the traceability and labelling of GMOs placed on the market, as well as on environmental responsibility.

The Community did not neglect to invoke the threat to biodiversity in its Sixth Action programme, as well as in its strategy in favour of biological diversity and its action programmes on the protection of natural resources and on agriculture.

Starting from its characteristic foundation on the precautionary principle, EC law on GMOs has not stopped expanding, aiming both at ensuring the functioning of the internal market in relation to this type of product as well as responding to the expectations of environmental protection circles and consumers alike. Directive 2001/18/EC on the deliberate release into the environment of genetically modified organisms is the mainstay in the prevention of the manifestation of these risks. This Directive is founded on a core principle according to which no GMO may be released into the environment on an experimental basis (part B of the Directive) or subsequently be placed on the market (part C of the Directive) without having been previously authorised by the competent authorities following a scientific assessment designed to establish the absence of risks for the environment and human health.

Finally, taking care to abide by its international commitments undertaken in 2000 in Cartagena, the European Community was quick to investigate means for enshrining the Protocol on the prevention of bio-technological risks right at the heart of the Union. Against this background the European Commission presented a draft regulation to the European Parliament and the Council on the transfrontier movements of genetically modified organisms.[50] The draft was based on Article 175(1) of the EC Treaty and, according to an opinion handed down by the Court,[51] was designed to implement, "in accordance with the precautionary principle", a system of notifications and exchange of information relating to the export of GMOs outwith the

49 OJ 1994 L 159.

50 Commission proposal 2002/0046 for a regulation of the European Parliamant and Council on the transboundary movement of genetically modified organisms, COM (2002) 85 final, 18 February 2002.

51 Opinion, 2 December 2001, ECR I-9713.

European Community, in order to "contribute to the assurance of an adequate level of protection" for the trans-frontier movements of GMOs which constitute a risk for biodiversity or health.

7. Conclusion

Four observations flow from the above analysis, the first in relation to the international legal order, the second to the development of a legal framework specifically tailored to the problems touched upon, the third to the integration of biodiversity issues into the EC legal order and the last to the implementation of this law by the Member States.

As far as the international scene is concerned, all biodiversity experts recognise that the European Community has become the linchpin of international environmental policy. Without the active engagement of the Community, agreements such as the Cartagena Protocol on Biosafety, the Stockholm Convention on Persistent Organic Pollutants or the Kyoto Protocol would not have been concluded or would not have entered into force. Without the efforts of the EC institutions, the precautionary principle would never have come to the forefront of international policymaking. Yet the picture is not as idyllic as one might be led to think. As for the sharing of benefits derived from the exploitation of genetic resources and the transfer of technologies, Europe still lags behind its purported aspirations.

As far as the EC legal order itself is concerned, large gaps remain in the structure from the point of view of biodiversity conservation. In the absence of a framework directive on biological diversity, it has found itself forced to fall back upon legislative acts stemming from diverse areas of policymaking, each adopted according to its own specific procedures, pursuing different goals, and elaborated without any general overview. Disputes over the choice of legal bases have led to interminable turf wars (section 3). There is significant overlap in the application of legislative acts; for instance, the various directives providing for impact studies apply in a cumulative manner (section 4), special protection and conservation areas end up being subject to complementary yet distinct classification and protection arrangements, and the coexistence of multiples "zonings" each answering to different directives pursuing multifarious objectives is, to say the least, problematic. The recent Community drive to promote biological biodiversity and the action programmes ensuing from it has barely been able to infuse a minimum of coherence into the law. Furthermore, despite the merits of the Natura 2000 network, the Birds and Habitats Directives fall far short of providing a comprehensive conservation regime.

On the integration score, an issue which has been left aside here for reasons of space, the challenges remain considerable. For more than five decades, policy after policy has been born of a frenetic obsession with productivity, and the road to the reconciliation of economic development with the conservation of natural resources under the aegis of the principle of sustainable development remains strewn with pitfalls.

Finally, the acid test for all of this law lies in its application which, it is important to reiterate, is incumbent upon the Member States. The numerous findings against Member States by the Court of Justice only make up the tip of the iceberg. The absence of political will, the lack of financial resources, the predominance of traditional interests over ecological interests, outdated systems of criminal law, the inability of environmental associations in many Member States to bring court actions, and the ambiguity of the applicable legal provisions are just a few of the factors undermining the application of harmonised EC rules. It comes as no surprise that despite the number of laws that now exist with respect to nature conservation, and the many positive impacts they have had, these positive steps still fall short of preventing Noah's Ark from sinking.

And yet, thanks to pro-active theories on compliance obligations, the effet utile principle and the principle of direct effect, EC law represents a clear advantage over public international law in terms of efficacy. It can at the very least due to the doctrine of direct effect and the preliminary ruling mechanism come to the forefront of disputes brought before the national courts. Recent developments might however dash the hopes that conservationists today place on EC law. Following its incorporation into the EC Treaty, the principle of subsidiarity has led to the production of fuzzy and soft law to the detriment of precise and unconditional rights which can be invoked by private persons against state organs. Although subsidiarity has had the

merit of offering, in areas as complex as the granting of agro-environmental aid or the management of drainage areas, indispensable room for manoeuvre to Member States, this principle could well sound the death-knell for a truly common policy. Many authoritative commentators, including my colleague Ludwig Krämer, have argued that an approach based on placing to much responsibility on state, regional and local authorities and a corresponding weakening of Community control could lead to a race to the bottom in terms of environmental protection.