CHANGING APPROACHES TO NATURE IN EUROPE IN THE LATER TWENTIETH CENTURY: THE THREE PROGRESSIONS

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Europe is a very diverse continent. Its earth history, its species and habitat distribution, and its climate represent a number of the Earth's biogeographical regions. In addition, it has experienced a diverse human history, has a mix of cultural origins, and a variety of institutional approaches. It is also affected by global approaches to nature. To identify and assess the changing approaches is therefore not entirely straight forward. The broad pattern of changes in approach that have occurred in the later twentieth century and to assess the causal factors are the basis of this paper.

Nature is considered to be the species, habitats, earth heritage and landscape of Europe. .

Three changes in the approach to nature are described: protection of nature, stakeholder engagement, and administration of nature. These are termed 'The Three Progressions'. For each, the components of progression are identified, the positive and negative elements assessed, and the progress that has been made over approximately half a century considered.

The paper considers the first Progression in greater depth and at greater length than the other two. It has been a longer standing approach, has greater prominence throughout the continent, and has the greatest degree of resources applied to it.

APPROACHES TO THE PROTECTION OF NATURE

Throughout Europe the key approach is the protection of nature through spatial mechanisms backed up by legislation at local, national, regional and international levels. Legislative protection for species has also been a characteristic approach through the period, and this is dealt with first.

(1) Species protection by legislation

The growth in interest in protecting individual species begun in earnest in the late 1940s. It was stimulated by concerns about the loss of some species and significant declines in others. It also reflected the concerns about the decline in species by key naturalists. This concern lead to international approaches to conservation, best epitomised by the establishment in 1948 of the International Union for the Conservation of Nature and Natural Resources (generally termed IUCN – The World Conservation Union) by Belgium, British, French, and Swiss interests in 1948 (see Holdgate, 1999). Its early focus was on the protection of species with the establishment of a network of volunteers in the form of the Species Survival Commission; this is still in existence today with over 100 specialist groups and over 7,000 species experts.

National legislation for the protection of species was developed in the 1950s. For example, the Protection of Birds Act in Great Britain came onto the statute book in 1954 with the explicit aim of safeguarding listed birds and their nests.

In the 1970s, there was recognition of the need for more concerted action for protecting species, especially migratory species. The Council of Europe lead the way with the

successive development and agreement of the Bern and Bonn Conventions on Migratory Species in 1979. At the same time, there was recognition within the European Union that action on birds was required. Following effective lobbying by Birdlife International and some is its key national partners, such as the Royal Society for the Protection of Birds in the UK, Council Directive 79/409/EEC on the Conservation of Wild Birds was approved by the Council of Ministers. In 1979 the concepts were later expanded to include other species and habitats under Council Directive 92/43/EEC of 21 May 1992 on the conservation of habitats and of wild flora and fauna. Hence for the first time a formal, pan-European statutory instrument for species and habitats was brought into force.

(2) Protected Areas

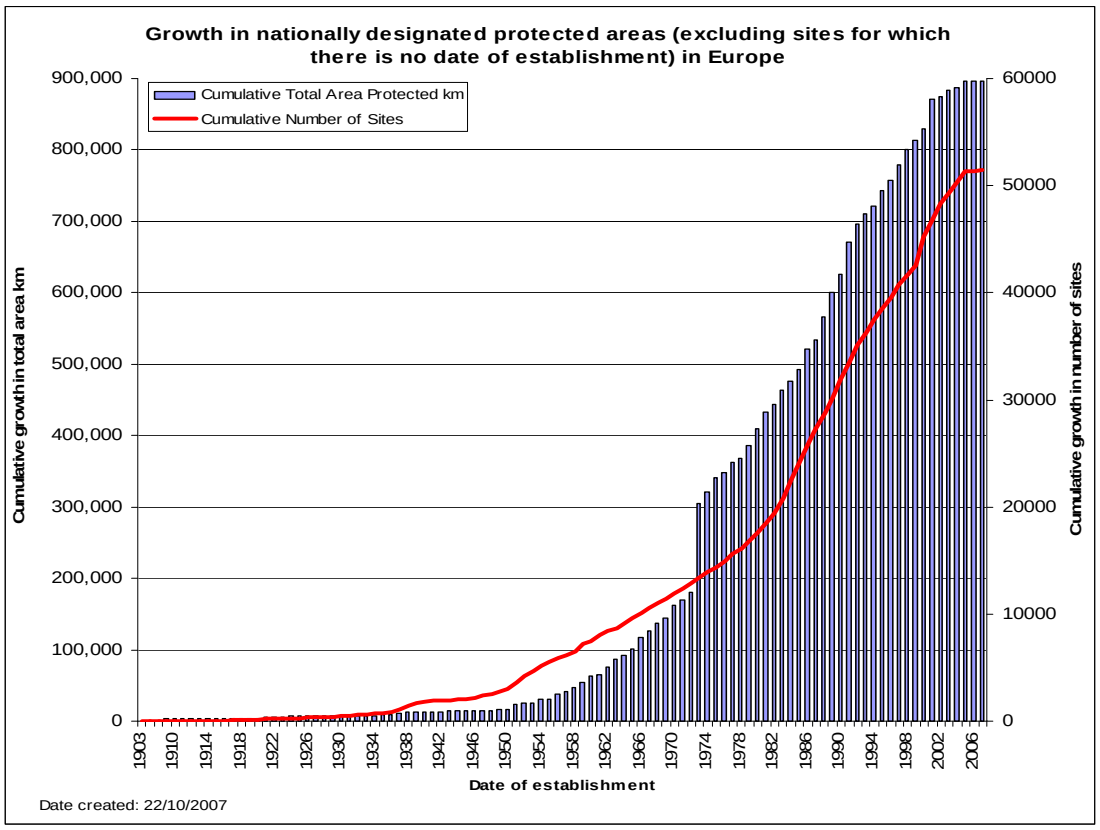
Protected areas have been the main traditional mechanism, and remain the main one, for protecting species and habitats and other features regarded to be of value, including geological and geomorphological features and processes, and cultural landscapes.

Protected areas is a generic term used internationally, and although it has connotations of an absolutist approach to nature, it is used here as the current term of art. The standard definition used internationally is ‘an area of land and/or sea especially dedicated to the protection maintenance of biological diversity, and of natural and associated cultural resources, and managed through legal or other effective means’ (IUCN, 1994).

In Europe, the first evidence of formally protected areas with a statutory basis was the establishment of National Parks in Sweden in the 1920s. The pace quickened considerably following the Second World War with the establishment of national systems in many countries as part of the period of national reconstruction and international cooperation (UNEP WCMC, 2003)

Fiogure 1 shows the growth of protected areas in Europe during the twentieth century. Most noticeable is the growth from the later 1970s representing in part of the implementation of the various European wide designations.

Figure 1 Growth in European Protected Areas



Source: UNEP World Conservation Monitoring Centre 2007

The data is for the terrestrial environment, but the same pattern is likely to have occurred in the marine environment. The reasons are that two regional Conventions, Barcelona for the Mediterranean Sea and Helsinki for the Baltic Sea, and two EU Directives, on Birds and on Habitats, have an objective of protecting species and habitats. In the Mediterranean, this is in the form of Special Areas of Mediterranean Importance. Most of this paper deals with the terrestrial environment. It is worth noting that the growth in interest in the marine environment and the protection of its nature begun much later than with the terrestrial environment and has continued to lag behind.

The types of protected areas across Europe are very variable in their purpose: natural monuments, features of Earth history, treasured landscapes, iconic scenery, rare and endangered species, and representative habitats. These were variously defined, for example, in Western Germany ‘protected landscapes’ are the key designation, whereas in Great Britain species and habitats sites called Sites of Special Scientific Interest, and National Parks have been the principal types.

A number of drivers for the development of protected areas can be identified, some positive and others negative, on the abundance and distribution of species and habitats, national recognition of the importance of nature and landscape, and growing loss of species due to land management. The fragmentation of habitats has probably been the single most significant negative effect on nature and has led to the need for new approaches (see below). The main causes of fragmentation are the development of various types of infrastructure (for example, modern roads systems in the lowlands,

holiday resorts along the coasts and lake shores, and ski developments in the mountain areas) and the changes in the use of land for agriculture (EC DG Environment, 2007, and see also UNEP WCMC, 2003 section on Europe). The European Union's Common Agriculture Policy, with its emphasis on financial support for food production for virtually half a century, has been the single major cause of change in the landscape of Europe and led to the intensification of land use, the removal of key elements in the landscapes such as wetlands and native woodland, and has reinforced the need to protect the remaining areas of natural and semi-natural habitats. Work, for example, in Scotland to analyse changes in the landscape between the late 1940s and the late 1980s showed that fragmentation of habitats and loss of key features in the landscapes, such hedgerows and trees, had resulted from the intensification of agriculture for crop production, most especially arable crops (Mackey et al, 1998).

There are some positive outcomes from the use of protected areas approach: land is set aside for nature, species can survive in these areas, and obligations are placed both on governments through national or international statutes, and on owners of land. However, the protected areas approach does have some negative aspects: they are isolated in the wider landscape and there is a sharp dividing line between the land protected and the land beyond the boundary. However, species and habitats do not recognise such boundaries and practices outside the protected areas with substantial cross-boundary effects into the protected area make it more difficult to achieve the protection objectives within the boundary. Protected areas are very dependent on governments for financial and policy support, which is many countries is fickle. As a result, the phrase 'islands of protection in a sea of devastation' (source unknown) has been coined.

(3) Connecting protected areas

New approaches have become necessary in order to ensure that the dynamics of natural change are catered for and that the development of the land for human use does not overwhelm the natural processes and the areas specifically protected.

Biosphere reserves

The first approaches were developed as part of the UNESCO Man and the Biosphere programme begun in the mid 1970s. A new style of protection – Biosphere Reserves – was developed. These were designed to perform three functions: conservation (conservation of biodiversity and ecosystems), development (association of environment with development), and logistics (international network for research and monitoring) (UNESCO, 1996a). To bring these functions into operation Biosphere Reserves were established comprising three zones: one or more **core** areas which are securely protected sites for conserving biological diversity, monitoring minimally disturbed ecosystems, and undertaking non-destructive research and other low impact use, such as education; a clearly identified **buffer** zone, which usually surrounds or adjoins the core areas, and is used for cooperative activities compatible with sound ecological practices, including environmental education, recreation, eco-tourism and applied and basic research; and a flexible **transition** zone, or area of cooperation, which may contain a variety of agricultural activities, settlements and other uses and in which local communities, management agencies, and other stakeholders work together to manage and sustainably develop the area's resources.

Biosphere Reserves have been regarded by many commentators as being ahead of their time (see IUCN, 1998) in bringing together protected areas and the surrounding landscape and seascape, in seeking to reconcile conservation and development, and in recognising the importance of the engaging all stakeholders in the process of developing and managing the designated areas. They also provide explicit connections between core protected areas and the surrounding landscape, and between conservation and development. However, they have not been widely used in Europe with the majority of reserves being in Bulgaria, Germany and Spain (UNESCO, 1996a). They have been widely misused as in many cases the three zones are not always present and therefore undermine the central point of the approach: connecting conservation with development. New criteria were developed after the first 20 years of operation as part of the Seville Strategy (UNESCO, 1996b) to link their use to implementation of the post UNCED Agenda 21 and the Convention of Biological Diversity agreed at the Earth Summit in Rio in 1992.

Ecological corridors and networks

An evolution from the Biosphere Reserve approach is the development of thinking and practice on **ecological corridors and networks**. This is based on the notion that disconnected protected areas and Biosphere Reserves are less likely to be successful in overcoming species loss and habitat fragmentation than an approach which seeks to link spatially core protected areas through the development of corridors between them and also the development of buffers around the protected areas themselves (see for example. A. Bennett, 1998; G. Bennett and Mulungoy, 2006). An **ecological network is defined** as 'a coherent system of natural and semi-natural landscape or marine elements that is configured and managed with the objective of maintaining and restoring ecological functions, while providing appropriate opportunities for the sustainable use of natural resources' (G. Bennett, 2000).

The corridors and the so-called 'stepping stones' within them are created to ensure that species have the potential to migrate on a diurnal and on a seasonal basis without leaving areas that are protected in some manner. The approach had been developed in The Netherlands, partly due to the fragmentation arising from the large areas of man-made reclaimed land; the stream and river courses form the basic skeleton of the corridors and hence the protected areas are considered networked (see, for example, Bennett and Wit, 2001 and G. Bennett, 2000). The concept has been most extensively implemented in central and eastern Europe: especially in Poland, the three Baltic States, and Hungary. This is perhaps in part because there has been a longstanding approach to producing inventories of natural assets and assessing their significance, and also the centrally planned approach to the management of land during the communist period (see Sepp and Kaasik, 2002) The approach has been formally captured and promoted as the Pan-European Ecological Network (Council of Europe, 1998), a component part of the Council of Europe's Pan-European Biological and Landscape Diversity Strategy (Council of Europe, 1996) developed and agreed by the member states of the Council of Europe in 1995.

Fragmentation of habitats and the separation of species from their diurnal and seasonal breeding and roosting grounds are widely accepted as a practical problem in the longer

term health of species populations and the effectiveness of core protected areas. At the lowest level, is the assumption that physical corridors linking protected areas are an effective mechanism for species movement. There is no agreement, however, on whether a geographically linked area through corridors of various widths has an overall beneficial effect on the longer-term survival of individual species. It is for this reason that most recent attention has been focused on the ecological basis and the practical value of ecological networks. The argument has shifted therefore from one about physical connection through corridors to one of linkage through various mechanisms in which connectivity for species movement and for maintenance of ecological functions is the overriding objective.

There are a number of benefits from the application of the corridors and networks approach: recognition of the continuity in nature, recognition of the ability to create pathways for migration, minimising loss or damage to landscape and biodiversity, integrating biodiversity with other environmental measures, promoting biodiversity conservation outside protected areas, contributing to sustainable development and integrating different sectoral interests (see, for example, Crofts et al, 2000; Sepp and Kaasik, 2000). More recently, it has been recognised as an approach to cope with the effect of climate change on the distribution of species and their gradual northwards migration in Europe. However, the fact that it has not been widely adopted across Europe is as much to do with the continuing debate about the validity of the ecological case on whether corridors and networks create the conditions for species movement and migration (see A. Bennett, 1998). There is also a concern that the approach is centralized and planned and is therefore out of vogue with current thinking on devolution and subsidiarity of power to the lowest effective tier of government. Perhaps the major issue in the application of the ecological network approach is the ability to influence positively the planning, development and management of the whole landscape, in particular the ability to influence the intensity and scale of agriculture, forestry and other land uses, the development of urban areas and associated industry and housing and transport networks. Although there is some evidence of this occurring in, for example, The Netherlands (Bennett and Wit, 2002), in the Mediterranean (De La Guerra, 2002) and in Barcelona Province in Spain (Puiz, 2006), these are exceptions rather than the rule.

(4) Whole landscape approaches

Bioregional planning

The limited adoption of the corridors and network approach in Europe, and indeed in other parts of the world (principally in alpine mountain corridors such as Meso-America), the unresolved issue of whether the linkages actually benefit the protection of nature, and resistance to such a planned approach were all reasons for the development of a much wider approach embracing the whole territory. These are what are generally called ‘whole landscape’ approaches (see Crofts, 2004) or bioregional planning or ecoregional planning. The approach is often referred to as ‘the landscape approach’ or ‘the landscape ecology approach’ given that the focus of attention is not on the protected area per se but on the whole of the landscape, irrespective of the scales, and the operation and interaction of the individual components. It has been developed originally by ecologists in the USA and applied in Spanish Latin America (see Miller, 1996) but has since been used in parts

of Europe, most notably in England as the Natural regions developed by English Nature in the early 1990s (English Nature, 1999), and in Scotland by Scottish Natural Heritage as a framework for its Natural Heritage Futures Programme in the later 1990s and early part of the current decade (Crofts, 2003a; Scottish Natural Heritage, 2002). A similar biogeographical basis has been used, for example, as the framework for the identification of protected areas in the European Union to form the Natura 2000 network. It has also been used successfully, for example, in Barcelona Province in Spain to ensure that nature conservation is a full part of the spatial planning for the whole of Catalonia Province (Puiz, 2006).

The basic components of this approach are as follows. A biogeographical region is defined using all relevant data such as vegetation types, climate, soils, and topography. Within each of the regions, the standard approach is to identify the protected areas, the corridors and networks linking them together, and the matrix within which they sit, and the development areas of industry and settlements (see Miller, 2000).

The bioregion approach has the advantage of recognizing spatial continuity in nature, the need to make space for migration, recognizing that 'space for nature' is often competing with 'space for development', and provides the basis for dealing with as yet unknown or emerging challenges such as the effect of climate change on the distribution of species and habitats. However, the approach has only had a limited adoption in Europe, probably because it is perceived as a too top down and planned approach especially at a time when planning is not in fashion, that it will inhibit development, and that is impinges to too great an extent on the interests of many stakeholders, including owners of land and other resources, local communities, and development interests.

PROGRESSION 1 can therefore be summarized as
|Species protection and protected areas plus buffers, plus corridors and networks, plus whole landscapes. The whole package has been developed and used in different parts of Europe over the last half century in the light of the effects of external and largely negative influences on nature. The practical lesson of this part of recent history of approaches to nature in Europe is that no one approach is sufficient on its own; rather the whole combination of approaches is needed if nature in all of its many manifestations is to be protected for the future.

APPROACHES TO STAKEHOLDER ENGAGEMENT

The second component of changing approaches to nature relates to stakeholders. These have become more diverse over recent decades. Formerly the territory almost exclusively of the biologist with a tinge of ecology, the stakeholders engaged began to embrace other scientific disciplines, such as the earth sciences, in recognition of the other components of nature and the interrelationship between. Some engagement of social scientists, including economists and community experts, has also been noticeable. More fundamental was the engagement of those whose interests were directly affected by nature protection: owners and managers of private land, tenants of private and public land. This process has been quickened in some EU Member States with the classification of Natura 2000 sites on private land. This was notable, for example, in Finland in the later 1990s when many legal challenges were made by private owners against the

protection of their land in marked contrast to the previous practice where all protected areas were on state-owned land.

A further step has been the gradual engagement of the local interests, including communities in and around protected areas. In the Great Britain, for example, the Government decided in 1989 to change the structure and organisation of nature conservation This can be directly related to the owners and tenants of land feeling that their legitimate interests were being dictated to by government conservationists who were using science of dubious validity and resulting in very large compensation payments from the taxpayer to the owners. This has brought a new dynamic into an already complex, and often tense, set of relationships.

And, finally a number of other wider interests have sought a role in the protected areas management: local, national and international non-government organisations. For example, WWF and Birdlife and its national partners have been particularly significant in seeking to ensure that the conservation purposes of protected areas have not been traded away in favour of economic development. There have been some notable cases of successful legal challenge against national governments which have attempted to allow development on or adjacent to Natura 2000 which would have had a very damaging effect (see Crofts, in prep). In England, the proposals to develop intertidal marshes on the River Thames within a proposed Natura 2000 were refused by the European Court following a successful challenge by WWF. Leybrucht, Germany, at Santander, Spain, and at Cardiff Bay, Wales are all examples where development proposals supported by the national government have been refused following legal challenges through the European Court by environmental non-government organisations.

The reasons for this progression are not hard to ascertain, but they do reflect a general pattern around the world of engagement of local communities. At the World Parks Congress in Durban in 2003, for example, there was a large caucus of community representation, along side business representation, to force agreement on new approaches which were eventually adopted in the Durban Accord (see Crofts, 2003b). In the past, conservation has tended to be dominated by biological scientists, indeed these experts were the progenitors of protecting nature in much of Europe from the 1930s onwards. As a result, many legitimate communities of interest felt disenfranchised. There were also many direct clashes between conservation interests and developmental or local community interest; every European country has had this experience. There are many recent examples in different parts of Europe. Permission given by the Bulgarian state authorities to develop ski slopes in the Pirin National Park in the heart of the World Heritage Site illustrated how relatively powerless the World Heritage Committee is to change the position, despite external independent evaluations carried out by IUCN World Commission on Protected Areas experts. Maybe this is because the Committee has little power other than gentle admonishment as it is the creature of the members who often seek to defend each other's interests. In the Parc nationale de la Vanoise, France approval was given by the French national authorities to develop ski and other Olympic facilities in the core areas of the park despite the fact that this area is safeguarded for nature. There have been many more examples around Europe, many of them also related to ski development in mountain areas. For example, there have been arguments in Bulgaria about ski development in the Rila National Park. In the Sumava National Park of the

Czech Republic there is an unresolved case about the management of trees infested with the bark beetle despite expert evaluations. In the Tatra National Park in Slovakia conservation interests have failed to halt proposals for greater tourism infrastructure following wind blow of native trees despite international expert evaluations. And, in the Bialowieza Forest in Poland forestry production interests continue to win the battle for the felling of old trees over the conservation interests.

The mechanisms used for resolving conflicts are unfortunately not at all sophisticated and all too frequently the development interests force the politicians into making a decision in favour of development (Rowan Robinson, 2005). The muscle frequently lies with the political and financial weight of the development lobby compared to the conservation lobby. Only in cases where there is strong legal basis and robust monitoring and enforcement machinery, as with Nature 2000 and to a certain extent with World Heritage Sites, does the balance tend to swing in favour of conservation.

There has also been a progression in the type of governance structures for nature protection, and especially for protected areas. In the middle part of the twentieth century, the governance model tended to be technocratic with scientists being in the pre-eminent positions. Directors of European national parks were invariably trained as biological scientists and their responsibility lay to the Ministry of the Environment. Over recent decades, a gradual broadening of the expertise of protected areas can be detected, in part as a result of emerging needs in the management of visitors, and in engaging with local communities and with business interests. This has also been reflected in the composition of the governing bodies of protected areas. In some cases, such bodies have been established where none previously existed, and in others a wide range of interests were appointed to the governing body to represent the wider range of stakeholders which had a legitimate interest in the area and its management and development. Now the position in many countries is that the governing bodies of protected areas comprise a mix of expertise embracing scientific, national and local political representatives, local community representatives, and the environment and conservation bodies.

There have been a number of benefits from expanding the stakeholder community. There is a greater chance of agreement on issues as a result of working together. Progress should be at a greater pace, and most important of all it recognises the legitimate interests of those who are owners and/or are responsible for the management of the conservation resources, and those who depend upon it for their livelihoods. On the other hand, there are likely to be too many different interests without shared goals and responsibilities, progress can be much slower in agreeing to strategies and plans and in their implementation. Overall, the lowest common factor rather than the highest common denominator is most likely to be the outcome: i.e. a minimisation of conservation in favour of other interests related to economic development and communities.

In summary, therefore, **Progression 2** is from largely biological interests to a wider range of scientists, and from single stakeholders to multistakeholders, and from a technocratic governance model to a more inclusive model.

APPROACHES TO AUTHORITY LEVELS AND OBLIGATIONS

The third component of changing approaches to nature relates the role of governments. This has varied over the last few decades and, most important, the level of control from higher authorities, and the number of instruments operating across all European countries have both increased substantially (Table 1).

Table 1: New European nature conservation responsibilities

All Europe
1971 Ramsar Convention on Wetlands
1973 Convention on Trade in Endangered Species
1979 Bern Convention on Migratory Species
1979 Bonn Convention on Migratory Species
2000 European Landscape Convention

Regionally specific
1976 Barcelona Convention (Mediterranean)
1974 Helsinki Convention (Baltic)
1991 Alpine Convention
2004 Carpathian Convention

Whole EU
1979 Birds Directive
1992 Habitats & Species Directive

Compared with the situation in many western European countries in the third quarter of the last century when there a small number of protected areas mechanisms of local or national significance, the position has changed dramatically. With the advent of the EU's interest in nature protection from the later 1970s and its extension into the wider field of environmental legislation, a new overarching dimension was imposed on national obligations. Added to this layer, were the international agreements developed from the 1980s onwards, and given an added stimulation by the UNCED in Rio in 1992. Also, there has been a growth in protected area mechanisms for different purposes: landscape, earth heritage, and biodiversity, alongside the more traditional approaches based on species.

There is no uniformity across Europe at the national and local levels because of the complexity and diversity of organisational structures: federal/state separation (especially in Germany, Norway and Spain) and devolution to lower levels of authority (for example in Scotland) being significant parts of the mix.

As a result, there is a much more complex system of protection of nature, with many different designations, often applying to the same site (in some places between 10 and 15 different designations might apply to a specific protected area). The ability to balance between the international and the local and all of the layers of designations in between is extremely complex. Generally speaking, the EU designations under the Natura 2000 programme are by far the most strict and any challenges to allow development to happen

are usually lost in the national courts and certainly in the European Court of Justice. Although it is possible to achieve derogations to national governments, these are difficult to obtain and give very limited discretion. Member States of the European Union attempting to undertake approaches to identification of sites under the Directives in a less than rigorous manner have always been forced to re-submit their case before any final decisions are taken. This has been the case with the United Kingdom in the past, and is currently the case with Poland, Bulgaria and Romania.

In summary, **Progression 3** is the addition of international and regional obligations and special interests onto the longer standing local and national approaches

THE THREE PROGRESSIONS IN SUMMARY

In summary it is possible to detect three parallel processes of change in the approach to nature in Europe in recent decades. These are termed **The Three Progressions**:

Progression 1 Protecting Nature from wholly protected areas approach based predominantly on species to one linking them by corridors and networks, to one embracing the whole landscape: in this progression the protected areas are still the backbone of nature protection but are supplemented and supported by actions beyond their boundaries.

Progression 2 Broadening the constituency from a predominantly biological science approach, to one involving a wider range of scientific disciplines most notably the earth sciences, to one engaging with those directly affected as land owners and managers or local communities, to one embracing the wider elements of the communities of interest in society.

Progression 3 Meeting local to international objectives from the predominantly national approaches set in legislation, to a more complex approach based, in part, on meeting the aspirations of local interests and special interest groups, and, in part, on meeting regional requirements particularly under the European Union and to a lesser extent the Council of Europe, and to meeting international obligations under a range of Conventions designed to ensure the protection of different aspects of nature (and also of culture).

Put another way it is possible to detect the following progression:

Table 2: Changes in approach: an Overview

1950-60s Single species management: drivers were species loss and international concern

1970-80's Protected Areas national & international: drivers were recognition that setting areas for nature should be successful for species and habitat loss reduction

1990's Integrated conservation and development projects: drivers were the UN Conference on Environment and Development in Rio and the Conventions which were agreed at the time, particularly the Convention on Biological Diversity

2000's Holistic, multi-stakeholder broad scale approach: drivers were the Millennium Ecosystem Assessment and the outcome of the second Earth Summit in Johannesburg and the agreement of the Millennium Development Goals.

Similar changes can be detected in other parts of the world as many lessons were learned and shared (Crofts 2004, Crofts et al 2000; IUCN 1998b; Lockwood et al 2006; Phillips 2000, 2003).

CAUSES OF THE CHANGES

The drivers of these changes are many and varied. Scientific opinion, rather than necessarily scientific fact, is one driver. Others are changing public attitudes, new behaviours, and changing political alliances driven by public opinion. The growth in the power and role of the big international non-government conservation organisations has been influential in engaging public interest and asserting the need for change. The growing body of expert knowledge on what is likely to work best in practice to protect nature have been very influential as articulated in various international fora. Also major factors affecting the use of the land resource and the demands placed upon it, particularly by the EU Common Agricultural Policy, and the demand for improved infrastructure for tourism and transport, have had dramatic effects. There is no one single explanation.

HAS THE APPROACH TO NATURE IN EUROPE IMPROVED?

Having argued that there are Three Progressions in the approach to nature, the question arises as to whether they have resulted in real improvements in the protection of nature. Certainly some positive signs can be detected: more legislation is in place at national and at EU level, the nature protection legislation in the form of the EU Directives on Birds, and especially on Habitats and Species is much stronger than previously existed in most EU countries, there are requirements for monitoring change, monitoring effort has increased, there is potentially greater compliance due to statutory improvements, and there are generally more resources. However, despite all of these improvements, the position on the ground is rather less positive, with the continuation of loss and degradation of important habitats and the continuing loss of species. For example, a recent analysis has shown that 13% of birds, 15% of mammals and 38% of freshwater fish in Europe are threatened with extinction as a result of habitat degradation and loss from a variety of land use changes (IUCN, 2007).

It is not possible to identify the degree to which the various approaches described in this paper have resulted in lessening the effects of other influences and therefore whether the progression of approaches has proved to be successful. However, given the extent of the detrimental changes taking place, then taking a Precautionary Approach would seem to be essential. This means taking steps to mitigate the effects of the detrimental causes of change and is widely used in environmental management.

Taking the Precautionary Approach a step further suggests that progress in protecting nature can occur if all three of the Progressions are adopted and implemented throughout Europe, that all are implemented in an integrated manner, and that action of the ground is taken by the appropriate authority. However, if these are to be achieved in practice, it will be necessary to ensure that the top down approaches which prevail in nature protection in Europe will not cause implementing authorities at the national and local levels to abrogate their responsibilities. Also there is a challenge for the scientific and other knowledge communities to make sure that the information needed to improve both the protection of nature and agreement on its effective implementation by civil society is made available in an accessible and practical form.

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