

**NORDIC COUNTRIES' LEGISLATION
ON THE ENVIRONMENT
WITH SPECIAL EMPHASIS
ON CONSERVATION
A SURVEY**

By Veit Koester

Published with the Assistance of the Fund
for Environmental Studies (FUST)

International Union
for Conservation of Nature and Natural Resources
Gland, Switzerland
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FOREWORD

It is not usual to publish surveys of environmental legislation in this series. Rather, we have in the past avoided giving emphasis to descriptions of national legislation, concentrating on specific, interesting, legal and policy techniques and devices, which might be of interest to a broad international audience.

An exception to this rule is being made, however, for the legislation of the Nordic countries. Such an exception seems fully justified, considering the characteristics of this body of law. Indeed, the legislation of the Nordic countries (Denmark, Finland, Iceland, Norway and Sweden) in the environmental field is one of the more sophisticated in the world. In many instances, it represents some of the most modern thought on the subject and could well prove a useful source to countries developing environmental law texts.

Of special interest is the integration of conservation considerations into the Government land-use planning process, and reciprocally, the support which conservation aims receive from planning instruments. Especially noteworthy are the techniques to assure conservation objectives in planning, such as country-wide inventories and mapping, which are regularly incorporated into Nordic policy and legislation.

In the broader field of environmental pollution, the Nordic example is also impressive. Nordic cooperation in the field has taken the form of a regional pollution convention, which incorporates mechanisms for international cooperation to combat such problems as transboundary pollution.

Given these accomplishments, it has been surprising that little has been done to date to bring these developments to the attention of the world community, either through translations of Nordic environmental law texts or in the production of comparative studies in languages other than the Nordic ones. It is, thus, the intention of this survey to provide an initial step in publicizing Nordic environmental law developments. It is also hoped that the survey will serve as an incentive to Nordic lawyers, administrators and policy makers to make the achievements of their countries in this field better known.

W. E. Burhenne

PREFACE

This survey does not pretend to be a forensic analysis of Nordic* instruments of environmental law. Its main aim is to give an introduction to legislation in a broader meaning of the term. It does not analyse specific legal provisions, nor is it a comparative legal study in the scientific sense of this term. Rather, it highlights common features and strives to give a survey of environmental legislation in all the Nordic countries, which clearly derives to a large degree from such features.

While focus has been put on conservation aspects of the environmental legislation of the individual Nordic countries, mention is also made of international cooperation between these countries in this field.

It will appear from the survey that legislative reforms are under way in some of the countries. Environmental legislation generally is still developing and substantial changes are continually taking place. A survey like this could, therefore, soon be out of date. For this reason, there is no attempt to give detailed lists of legislation in force at any given time. This may enable the survey to remain valid longer as an introduction to the general framework of environmental legislation in the countries concerned.

Comprehensive reference material is, obviously, available on environmental legislation and administration in the different Nordic countries and forms the basis of this survey. Since it is generally available only in the relevant Nordic language, specific references are not included. Some material has, however, been published in the main international languages, mostly in English, and can usually be obtained from the responsible government agencies.

Many of the most important pieces of legislation mentioned in the survey are available in English translations, some of which are found in S. Ercman: 'European Environmental Law' (Bubenberg Verlag, Bern, 1977) .

Comprehensive comparative treatment of environmental legislation in the Nordic countries is scarce. A comparative analysis of environmental law in a broad sense is found in 'Nordisk miljøret - en oversigt' ('Nordic Environmental Law - A Survey') by Bertil Bengtsson, Professor of Law, University

* The term 'Nordic' relates geographically to Denmark, Finland, Iceland, Norway and Sweden; the term 'Scandinavian' covers only Denmark, Norway and Sweden.

of Uppsala, Sweden (Nordisk Ministerråd, NUB 1976:25). Unfortunately, this has never been translated into any of the main international languages and is today already out of date in a number of aspects.

The author is indebted to an article 'Vaern af vore omgivelser' ('Protection of our Physical Environment') by Viggo Nielsen, Director General of the National Agency for the Protection of Nature, Monuments and Sites of Denmark, printed in Nordisk Administrativt Tidsskrift 1975/2, p. 137 ff. Some older unpublished monographs on aspects of the legislation on nature conservation by, among others, Barbro Edenborg (Sweden) and Hans G. Boström (Sweden) have also been of value.

In addition, information on specific aspects has been collected from colleagues in the other Nordic countries, notably from:

Finland: C.J. Gardberg (Directorate of Museums and Antiquities), Lars Blomberg (Ministry of the Interior), Anti Haapanen and Esko Jaakkola (Ministry of Agriculture and Forestry).

Iceland: Eythor Einarsson (Museum of Natural History), Knutur Hallsson (Ministry of Education and Culture), Thór Magnússon (Central Office of National Antiquities) and Arní Raynisson (Nature Conservation Council).

Norway: Jan Abrahamsen, Astrid Bonesmo, Gunnar Germeten, Magnar Nordenhaug and Peter J. Schei (all of them from the Ministry of the Environment) and Stefan Tschudi Madsen (Central Office of National Antiquities).

Sweden: Bertil Bengtsson (University of Uppsala), Lars-Erik Esping (National Agency of Environmental Protection), Christian Laine (Central Office of National Antiquities), Hanne Lindencrona (Ministry of Housing and Planning) and Ulf Weinberg (National Agency for Environmental Protection).

My former colleague, Ove Nissen (now of the Association of Danish County Councils) has suggested valuable corrections and supplements to the manuscripts, not least with the view to its presentation in English.

I wish to thank all those who have assisted me, mentioned and unmentioned. I am solely to blame, however, for any error or omission.

Veit Koester
Copenhagen, August 1979

THE AUTHOR

Veit Koester is a Master of Law and Administration (Copenhagen University). After admission to the Bar, he turned to government administration. In the Ministry of the Environment of Denmark, where he heads the ecological section of the National Agency for the Conservation of Nature, Monuments and Sites, he has participated in the drafting of legislation and has been involved in international cooperation in these fields. Mr. Koester has been an active contributor in the preparation of several international instruments on nature conservation, notably the Washington Convention on International Trade in Endangered Species of Wild Fauna and Flora, the Bonn Convention on the Conservation of Migratory Species of Wild Animals, the Convention on the Conservation of European Wildlife and Natural Habitats, and the European Community Directive on Bird Conservation. He has authored or co-authored several publications in the field of nature conservation and preservation of buildings, and is a member of the IUCN Commission on Environmental Policy, Law and Administration.

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1. INTRODUCTION

1.1. Environment and the public debate

When analysing public social debate over the last decade, words like 'environment' and 'milieu' are among the most repeated. Environmental aspects enter into consideration of political and social problems where they were unknown until a few years ago. 'Environment' is not a new term, but its scope has been enlarged to include social relationships and aspects of life whose importance has only recently been realized.

Public debate in the 1960s and early 1970s created a common recognition of the scarcity and vulnerability of natural resources - water, air, soil - which make up man's biotope. It was gradually realized that man needed to concern himself with more than his immediate environment. If 'environment' was earlier synonymous with 'village', 'town' or 'neighbourhood', it gradually became synonymous with 'air to breathe', 'water to drink' and 'soil to exploit'. It is with the meaning 'man's biotope' that the term 'environment' is used in this paper.

1.2. The influence of the public debate

The introduction of the 'environmental element' in the public debate started a political avalanche, which has not yet been halted and which concerns almost every part of our planet. It has, however, already set its mark on the industrialized parts of the world and caused far-reaching legal and administrative reforms.

The broadening of the scope of the term 'environment' has also led to the realization of the need for international cooperation in the field; polluted air or water cannot be halted at borders.

The Nordic countries were among those where environmental problems were recognized fairly early, as can be traced in legislation and administrative reforms. The Swedish 1969 Act on Environmental Protection is, certainly, one of the first legal instruments in the industrialized world aimed generally at preventing, reducing or controlling pollution. The creation of Ministries of the Environment in Norway (1971) and Denmark (1973) were early examples of measures aimed at vesting administrative responsibility for legislation concerning town and country planning, pollution control and conservation in a single ministry.

1.3. The Nordic countries and international cooperation in the field of the environment

The Nordic countries have also played a key role internationally. The first world environmental conference, the

UN Conference on the Human Environment, arose from a Swedish initiative and was hosted in Stockholm by the government of Sweden in 1972.

The common titles of certain international agreements on the prevention of sea pollution also demonstrate Nordic initiatives in environmental cooperation) for example, the 1972 Oslo Convention for the Prevention of Marine Pollution by Dumping from Ships and Aircraft and the 1974 Helsinki Convention on the Protection of the Marine Environment of the Baltic Sea Area.

1.4. Nordic cooperation in the field of the environment

A key instrument in Nordic cooperation in the field of the environment is the 1974 Nordic Convention on the Protection of the Environment, based on a proposal from the Nordic Council (an assembly of members of parliament from the five countries). Under this convention, the authorities of any country party to the convention shall take into equal consideration the environmental consequences to other parties when granting permits for activities which may be environmentally damaging. Moreover, a citizen of one country party to the convention has the right to bring before the appropriate court or administrative authority of another party State the permissibility of activities there, which he deems harmful to himself or his interests. Denmark, Finland, Norway and Sweden are parties to the convention (see also 'Environmental Policy and Law 1975/1', p. 45 ff; Stephen C. McCaffrey: 'Private Remedies for Transfrontier Environmental Disturbances', 'IUCN Environmental Policy and Law Paper No. 8', Morges, 1975, p. 85 ff, and 'A Regional Approach - A Worldwide Responsibility', Nordic Council, NU 1975:33, p. 13 ff).

The Nordic Convention on the Protection of the Environment is, undoubtedly, unique and, in a world context, is considered as a sort of 'model agreement'. However, it is only one example - although a most important one - of Nordic cooperation in this field.

This cooperation has wide ramifications and covers many subjects. A significant part of it takes place within the framework of the Nordic Council and the Nordic Ministerial Council. Within the latter, a Committee of Senior Government Advisers on Environmental Issues was set up in 1973 and is served by the permanent Secretariat of the Nordic Ministerial Council in Oslo. Among the results of recent years are - apart from the conventions already mentioned - projects for common processing plants for the treatment of different types of waste, common standards for noise emission, common post-graduate courses and curriculae on environmental problems, development of methods for measuring air pollution, etc. Other projects are specifically dealt with later.

Numerous proposals and recommendations from the Nordic Council bear witness to the interest among Nordic parliamentarians in promoting a common effort for preventing pollution and

protecting Nordic nature, not least with a view to improving the possibilities and opportunities for outdoor recreation and tourism. (For further information on Nordic cooperation, see 'Cooperation Agreements between the Nordic Countries', Nordic Council, NU A 1978/4.)

Lastly, mention should also be made of important examples of bilateral cooperation, such as that between Denmark and Sweden on pollution control in the Sound, between Sweden and Finland on pollution control in the Gulf of Bothnia, and between Finland, Norway and Sweden in the management of transfrontier national parks.

1.5. Environmental legislation: scope of the survey

The interest of society in environmental problems is - or should be - reflected in legislation at various levels.

Environment law is, however, a new discipline in jurisprudence. Its boundaries are far from well-defined. What should, or should not, be considered as within its scope is very much a matter of opinion.

It has not been challenged, though, that environmental legislation includes that which regulates and protects man's physical surroundings, and especially nature and its resources.

However, this general understanding goes only for our outdoor surroundings. Our working environment (including the provisions protecting, for example, workers against pollution in factories) is generally not included. Provisions regulating the quality of food and the content of dangerous substances in products used by man are examples of borderline cases.

For the purpose of this survey, 'environmental law' is defined as 'legal provisions dealing with our outdoor surroundings'. These can be broadly grouped into three main administrative sectors, although, as in all theoretical constructions, some overlap is unavoidable.

These sectors are:

- i) Provisions aimed at prevention or control of pollution (of air, water and soil by waste, dangerous substances and noise) .
- ii) Provisions concerning physical, town and country, and land-use planning, that is, questions of urban development, location of roads, power-lines and main industries and other types of area reservations.
- iii) Provisions for the conservation, preservation or protection of nature and its non-renewable resources, landscapes and valuable man-made environments, such as ancient monuments, historic buildings and landmarks.

Emphasis will be given here to provisions directly aimed at the conservation and protection of nature (including recreational interests) and of monuments, buildings and other cultural features of our environment (including prophylactic or environment-improving measures). Legislation aimed at pollution control or town and country planning is purposely only briefly mentioned. Physical planning as an instrument for serving protection and conservation interests will, however, be dealt with in some detail.

In a technologically highly-developed society, environmental legislation is inevitably complicated. Human health, ecological and economic considerations and the protection of private rights and property all need to be taken into account. The complex nature of environmental legislation cannot be reflected in a survey like this.

In addition, it has to be noted that such legislation is not a new phenomenon in the Nordic countries, dating back to the beginning of this century, and that since environmental law is in continuous development, any theoretical study can only claim to be fully relevant at that particular point in time.

The fact that this survey deals with five countries makes these constraints even more stringent.

In spite of this, the following survey attempts to give an overview of fundamental principles, highlighting the common features which Nordic environmental legislation shows for several reasons: common traditions, parallel economic and social development, fairly similar geographic and climatic conditions, mutual inspiration through formal and informal cooperation, etc.

Before examining the above-mentioned legislation in four separate sections, two questions of general importance for the environment will be briefly touched upon.

1.6. Environmental Impact Statements (EIS) in the Nordic Countries

In the Nordic countries there is no legislation introducing the general system of environmental impact statements. However, in the administration of the provisions for the granting of concessions, such as for water supply or the extraction of raw materials, certain environmental consequences are taken into consideration, while permission for the siting and construction of environmentally dangerous plants and industries is only given, subject to comprehensive consideration of a wide range of issues, which may be comparable to an environmental impact assessment. Yet a uniform, systematic, broadly-based analysis of immediate and general environmental effects of the siting of polluting, disturbing or resource-consuming enterprises is not undertaken in any Nordic country, although the concept is being introduced into new planning legislation now being drafted in Norway.

When considering applications for minor enterprises or plants, local authorities will generally apply centrally-set standards for the quality of air and water. Guidelines for noise levels, water supply, landscape and recreational interests are normally taken into consideration. The same applies to important biotopes or man-made environments.

Plants or industries, which involve large areas, impinge on regional interests or which are deemed to be especially threatening to the environment, may be constructed, subject to permission by a higher authority, be it regional or central; and compensatory conditions may be applied ('polluter-pays' principle).

The types of plants and industries requiring permission by the environment authorities - even though they differ from country to country - are positively defined. There are norms for the emission of a number of dangerous substances into the water, air and soil. There are government directives providing general rules for public access to the open country, the use of coastal and mountain areas, the layout of areas for particular resource-demanding industries, the afforestation of wastelands, etc.

There is, however, no established procedure or identification as to what particular environmental concerns must be addressed. Consideration is given on a case-by-case basis, depending upon actual knowledge of environmental consequences, differences in the legislative and administrative base, overall status of resources or conflicts of other interests. The approach is, thus, empirical, but recognizes certain guidelines.

The reluctance of the Nordic countries to adopt the EIS procedure can only be guessed at, but might be explained by the relatively high state of development of their town and country planning legislation. Since it is an intrinsic part of legislation on physical planning to ensure that areas are developed with equal consideration for the environment as for employment, economic development, etc., then a subsequent EIS procedure might be superfluous. Yet clearly EIS-like considerations must be included in the planning process. An EIS procedure would be relevant when town and country planning - as often is the case - leaves several options open for the final development of an area or when considering special major projects, such as heavy industrial plants, highways, etc., which may have complex environmental effects.

The EIS procedure is being scrutinized within the framework of a Nordic Ministerial Council project entitled 'Ecological knowledge and community planning'. A survey on the use of ecological data in community planning in Denmark, Finland, Norway and Sweden was issued through this project in 1978. Mention should also be made of the publication B 1978:10 of the Nordic Council, 'Characteristics of Environmental Data', which contains a proposal for the information which should be

registered together with environmental data in order to assure that these data are useful in the future. A common principle of codification of all kinds of parameters and biological species is also given.

(On US experiences with EIS, see Orlando E. Delogu: 'United States' Experience with the Preparation and Analysis of Environmental Impact Statements', 'IUCN Environmental Policy and Law Papers No. 7', Morges, 1974.)

1.7. Decentralisation and public participation

A second important question, which will not be touched upon here, is that of the level of decision making and the extent to which the general public participates in the decision-making process.

No comprehensive Nordic analyses are available to answer these questions. Nevertheless, there is no doubt that there is a tendency towards decentralisation of decision making to local or regional authorities, leaving the central authorities to set up the legislative framework, establish national directives and issue general guidelines. Central authorities also act as boards of appeal for individual decisions by a decentralized authority where special appeal procedures have not been instituted.

In some of the Nordic countries, legislation increasingly provides for public participation through provisions for exposure to public debate of decisions of importance to the environment, planning proposals, etc. Citizens groups or private individuals have the right to present complaints or appeal, bordering on an actio popularis.

2. POLLUTION CONTROL

2.1. Introductory remarks

The scope of the legislation on pollution control is the protection of air, water and soil against pollution, and the reduction of existing damage. It further encompasses noise abatement, treatment of waste and control of dangerous substances.

Regulations on pollution control are found in older Nordic legislation, mainly concerning public health or nuisance to neighbours. It is only in later years that pollution control provisions have been aimed at the maintenance of the natural equilibrium in the environment with due regard for other interests of society (see over).

2.2. Purpose, aims and instruments

We find today in all Nordic countries legislation to control, abate, prevent, limit or regulate pollution of air, water and soil, as well as noise disturbances.

Several instruments are available. One main principle in the legislation is that trades and industries, which may prove dangerous to the environment, may be established, subject to previous permission by a public authority, and that such permission may be conditional on the observance of certain standards] for example, for the emission of dangerous substances into the air. Another main principle enables public authorities to take measures against, or even close, plants and industries causing unacceptable pollution, even though such a plant or industry may have been legally established.

Obviously, when deciding on the permissibility of an industry, considerations other than purely ecological ones are taken into account, such as social, economic or employment interests and those of private landowners.

Another important instrument in exercising pollution control is town and country planning (see below at section 3.). For example, careful siting of noisy enterprises is cheaper and often more effective than noise-reducing measures within the enterprise, itself.

2.3. Legislation in the Nordic countries

The most comprehensive Acts on pollution control are to be found in Denmark and Sweden. The Swedish Act on Environmental Protection (Miljöskyddslagen) dates from 1969, the Danish Act (Miljøbeskyttelsesloven) from 1973. In principle, both Acts cover all activities dangerous to or threatening the environment. In Denmark special provisions for the protection of ground water are found in the Water Supply Act.

In Finland, Iceland and Norway provisions for pollution control are spread over a number of instruments of law, mostly enacted, as in Denmark and Sweden, during the last decade; for example, the Finnish 1978 Act on Solid Waste. Comprehensive reforms are under preparation in some of these countries.

3. PHYSICAL (TOWN AND COUNTRY) PLANNING

3.1. Introductory remarks

Just as 'environment' has been a key term in the political debate in the last decade, so has the term 'planning', not least in the particular context of 'physical planning' or 'town and country planning'.

Physical planning originally concentrated on urban areas, aiming at an appropriately coordinated layout of densely populated areas, if necessary, to the detriment of private proprietors. The 1920s saw the first generation of Nordic legislation in this field.

The development explosion after the Second World War led to demands for traffic installations, housing projects, etc., hitherto unknown. Such development occurred widely and without integration with existing urban communities. A special problem in this context was the spread of secondary or holiday housing in the open country.

Altogether this led to an increasing public awareness of the necessity for building control, partly to ensure rational urban development, partly to prevent scattered and random building in open country.

Consequently, we find today in most of the Nordic countries the legislative framework for regional and countrywide physical planning as an integral part of overall community planning, involving also economic and social aspects.

3.2. Land-use planning: aims and principles

Physical planning concerns essentially the use of land. The use of land can be regulated so as to prevent pollution or to protect and promote agriculture and landscape values. Land is a key factor in promoting trade and industry. The availability of the necessary infra-structures for land development is a key pre-condition for any policy aiming at diminishing regional imbalances. Furthermore, infra-structure means more than sewage and roads; it means schools, hospitals, recreational areas, etc.

The extent to which land should be developed or preserved is a political decision. Yet local or regional knowledge is a pre-requisite for taking the right decisions. Provided that decisions are taken within the framework of government policy and do not impinge upon issues of national or international importance, such decisions should, therefore, be taken by local or regional authorities rather than by central government.

At the local level, the public will be more likely to take a keen interest in what is happening, and systematic procedures for public involvement in planning decisions should, therefore, be foreseen; for example, through the publication of draft plans and involvement in their preparation of those affected by them.

However, in order to ensure the proper options upon which political decisions will be made, it is essential to avoid abrupt changes in actual land use. Changes in land use must either be in conformity with land-use planning already agreed upon or subject to prior permission by the planning authority (at local, regional or central level).

It is important to recognize that society's refusal to sanction a particular change in the use of land should not constitute grounds for economic compensation, at least when such refusal is based upon a regulation of a general character. Otherwise, the main concern of physical planning - the wise use of land, environmentally and economically - would be frustrated by petty bargaining.

Present Nordic legislation in the field of physical planning generally meets the concerns described.

3.3. Legislation in the Nordic countries

Comprehensive examination of the planning legislation of each individual country would lead us too far. Instead, planning legislation will be looked at from a landscape protection and a nature conservation point of view with particular reference to housing and urban development, holiday housing, camping sites, hotels, etc. The question to be considered is whether legislation controls such development, and if so, to what extent landscape values and conservation interests are taken into consideration when exercising control.

Extraction of raw materials may - if not controlled - cause as much damage to the landscape as uncontrolled building. Legal provisions controlling the extraction of raw materials are, therefore, mentioned in passing, while the effects of roads and power-lines, for example, on the landscape are mentioned in section 4, Conservation of Nature.

Despite the fact that building control is important from the point of view of nature conservation, it is often neglected. When considering the state of protection of the open country, it is not sufficient to ask how many square miles are under some sort of conservation easement or for the total area of national parks. That three per cent of the area of Denmark is subject to some sort of conservation easement does not reflect the state of nature conservation in Denmark. One needs also to know that open country, as a whole, is subject to control through legal provisions aimed at preventing building which does not conform to the landscape and to conservation interests.

3.3.1. Denmark

The 1969 Danish Act on Urban and Rural Zones makes any building in the open country (that is, rural zones, circa 95 per cent of the land area) subject to previous permission by the county council as regional planning authority. Only buildings for agricultural use are exempted from this general regulation. The term 'building' is broadly defined in the context of the Urban and Rural Zones Act and includes camping sites. Building activities on a larger scale are not generally permitted unless the zonal status of the area is changed under a planning by-law pursuant to the 1975 Municipal Planning Act. These planning

by-laws - local plans - are the most detailed planning instruments in Danish legislation. They are directly binding on individual citizens, and are - or will become - based upon a general municipal plan covering the entire municipality (there are 275 municipalities in Denmark). The general municipal plan, itself, must keep within the framework of a regional plan established pursuant to the 1973 Act on National and Regional Planning. There are 12 planning regions in Denmark.

It is among the explicit aims of the Urban and Rural Zones Act and the planning legislation to safeguard landscape values and nature conservation interests and to provide for recreational facilities and possibilities for the general public. Conservation authorities are directly involved in the administration of the planning legislation and seek to ensure, for example, that extensive holiday housing developments do not ruin landscape and conservation interests or lead to the partition of land under private ownership, which denies access to areas which ought to be available to the general public. In this context, a government planning directive should be mentioned. This directive is binding on regional and municipal authorities, and dictates that no further holiday housing areas may be laid out in zones along and near the coast.

There is, furthermore, special legislation on holiday housing and camping sites, dating from 1972, aiming at securing public control of commercial leasing of holiday houses and camping sites, and regulating the purchase of real estate by corporations and registered companies with a view to recreational exploitation.

The extraction of raw materials from the subsoil (mainly sand, gravel and lime) is also subject to control, and landscape and conservation values must be considered (1977 Raw Materials Act).

3.3.2. Finland

In Finland the basic principle requires that building may be carried out only when it has been proved, through a public planning procedure, that the property or area is suitable for development from an infra-structural and community point of view; but this basic rule does not apply to building in the open country - 'glesbebyggelse' (1958/1974 Building Act). There is no regulation to prevent, for example, holiday houses from scattering all over the open country. A planning reform is, however, in preparation.

3.3.3. Iceland

The 1971 Icelandic Conservation of Nature Act makes the building of holiday housing in areas not covered by planning provisions subject to permission by the municipal council, which is required to consult the conservation authorities. Thus, conflicts between the development of holiday housing and

conservation interests should be avoidable. There are, on the other hand, no general rules for the construction of, for instance, hotels or the erection of camping sites in the open country, but proposals for necessary amendments to the Act have been made by the Icelandic Nature Conservation Council.

The extraction of raw materials may be prohibited when it conflicts with nature conservation interests.

3.3.4. Norway

The 1965 Norwegian Building Act prescribes that nature conservation and recreational interests shall be evaluated and taken into consideration equally with other potential interests. This applies to general and regional planning, as well as to more detailed regulatory planning. The general provisions of the Act directly cover, for example, the construction of hotels and the establishment of larger recreation facilities in the open country, and they can - if the municipal council so decides - be extended to cover holiday housing, so that its development may be made conditional on previous planning or even be totally or partly prohibited.

The 1971 Act on Coastal Planning includes a general ban on building within a distance of 100 metres from the beach. Building in 'coastal areas', that is, areas where beaches and the sea are a key factor in recreational and tourist development, may be carried out only within the framework of approved planning.

The scope of the 1971 Act was enlarged in 1973 to also cover planning and development of mountain areas. The amendment makes it possible to ban building along watercourses and to make building in mountain areas close to watercourses subject to the same conditions applicable to coastal areas.

The establishment of camping sites in the open country is only regulated in the 100-metre zone along beaches and along watercourses where the 1973 amendment applies.

3.3.5. Sweden

Development planning in Sweden is based on the Building Act of 1947, as amended in 1973.

The highest - or most general - level of planning prescribed by the Act is the regional level. Regional Plans give a survey of land-use allocation in a number of municipalities. Within each municipality, the general plan constitutes the comprehensive planning instrument, and is that under which areas shall be set aside for recreation and leisure purposes; for example, buildings shall conform to the requirements of the general plan.

Below regional and general planning level there are implementational town planning and building by-laws; and above it - but outside the legal framework of building legislation - the so-called 'national planning'. Guidelines for this national planning, aimed at proper management of area and water resources, were issued by parliament (Riksdagen) in 1972. A general reform of Swedish planning legislation is at present under preparation.

At all levels of planning nature conservation, landscape values and recreation interests are to be considered.

In Sweden - as in Denmark - any building in the open country (apart from building for agricultural purposes) is subject to previous permission unless already provided for in approved plans, as well as special provisions in the legislation on nature conservation for certain landscape elements.

The 1964 Swedish Conservation of Nature Act makes the extraction of raw materials subject to special permission, and as in Denmark, the authorities may - without compensation - refuse permission; for example, if the extraction is deemed to be in conflict with nature conservation interests.

4. CONSERVATION OF NATURE

4.1. Introductory remarks

Nature conservation was, as mentioned earlier, among the first aspects of environmental protection to be regulated through Nordic legislation.

Originally, legislation on nature conservation extended previous private efforts to protect unique and outstanding natural sites, landscapes and places of particular interest. However, in later years, the scope of conservation legislation has been enlarged so as to become an integral part of the physical planning system. The core of the different Acts on the conservation of nature remains, however, the provision for protection, in principle for perpetuity, of elements in our physical environment.

There are, of course, many differences in nature conservation legislation between the various Nordic countries, the Danish Conservation of Nature Act differing notably from the other four. The reason for this is, undoubtedly, due to the higher population density and the particular geographical conditions in Denmark. Moreover, land in Denmark is, to a very large extent, under private ownership, whilst in the other countries, there are vast publicly-owned areas, especially wilderness.

However, there are many common features as well reflected in a common ideological approach and common aims. This common

attitude is also characterized in Nordic cooperation in the field. In 1973 the Nordic Council issued a book 'Survey of important areas under conservation or to be conserved in Denmark, Finland, Norway and Sweden', in which expects from the four countries define and describe areas of importance from a common Nordic conservation point of view (more about the book in English can be found in 'A Regional Approach - A World with Responsibility', published by the Nordic Council, NU 1975/33, p. 18 ff). Among the areas mentioned in section 4.3., many are classified in this survey as being of Nordic importance (see also section 4.7.6.).

4.2. Purposes, aims and instruments

The legislation on nature conservation has two main aims:

The first is to protect nature for scientific, educational, cultural, historical or aesthetic reasons. Such protection aims not only at the land, but equally at the flora and fauna, geological phenomena, etc., and includes arable land as well as wilderness) for example, in Denmark, there is virtually no land which has not been touched by man over the ages.

The second main aim is to give the public access to nature for recreational or leisure purposes. Selection and planning criteria are here, obviously, different and involve accessibility and visitor pressure. Beaches and water are the most popular ingredients. Apart from traditional holiday and leisure activities, there are today varied and wide-ranging demands for the use of nature in one way or another, ranging from different forms of sport to specific scientific or historical hobbies.

Legislation provides several instruments for pursuing the main aims of conservation, and can generally be divided into two groups:

- i) Provisions in the formulation of individual conservation easements for the establishment of nature and national parks or other categories of areas and reserves, protecting them generally or against specific activities inconsistent with their objectives.
- ii) Provisions aiming at general regulation of the open country, which may, for example, protect certain elements in the landscape (beaches, lakeshores or wood fringes, etc.) or may make certain activities in the open country subject to previous permission by the conservation authorities (for instance, the erection of power-lines or the construction of roads).

The second group contains some of the common regulations in Nordic legislation, prohibiting open air advertising and the dumping of refuse and solid waste in the open country. General

rules on public access to the open country, and provisions protecting species or groups of species of flora and fauna should also be mentioned in this context.

A specific instrument provides for the establishment of nature conservation plans, such as those found in Denmark, and for general sectoral planning activity to require conservation interests to be taken into consideration in comprehensive physical planning (see section 3.). Effective planning constitutes the strategic basis for the use of other legal instruments, from the establishment of national parks down to individual application for the construction of a cottage in an interesting landscape.

The most important legal instruments are described below.

4.3. Conservation areas, national parks, nature parks, etc.

All Nordic Acts on nature conservation contain provisions for the protection of specific landscape or natural areas.

The main purpose of such protective measures is the maintenance of an area in its existing state. This is achieved by prohibiting activities threatening it, such as building, road construction or raw materials' extraction, or by prescribing any necessary management measures to prevent changes in that state, for example, natural incursion of forest into open glades.

According to the IUCN Bulletin of April 1979, the percentage of areas under protective conservation is respectively 2.02 in Finland, 1.73 in Norway and 3.85 in Sweden. The percentage in Denmark is circa 3.00. When comparing these figures, it must be borne in mind that publicly-owned land and wilderness areas amount to a much higher percentage of the total area in Sweden, Finland and Norway than in Denmark.

4.3.1. Denmark

In Denmark three main types of individually protected areas are found: areas subject to conservation easements pursuant to the Nature Conservation Act (dating from 1969, but with considerable subsequent amendment, and most recently in 1978); scientific reserves established pursuant to legislation now repealed, but still maintained as reserves; and game reserves established pursuant to the Hunting Act (1967 with later amendments).

In addition, there are woodlands and forests which are protected by forest legislation and make up 11 per cent of the total area. One-third of the woodlands are owned by the State. There are also areas purchased by the State for recreational purposes pursuant to the Nature Conservation Act or the special 1972 Act on Requisition of Land for Recreational Purposes, a total of 6500 hectares, bought for a total sum of circa D. kr. 140 mill.

Localities subject to conservation easements number several thousand; for each locality or area, particular conservation easements define the aim of such conservation, specify what is permitted in the area (for example, public access), what is prohibited or requires special permission (for instance, building and road construction), and what must compulsorily be done (such as the establishment of bicycle tracks, continuous grassing of pastures and maintenance of hedgerows).

In the last decade, conservation efforts have, to a large degree, been concentrated on establishing coherent protected areas within a system of some 30-35 classified landscapes, which a nation-wide systematic analysis of the open country has identified as zones of national or regional importance. The criteria on which the analysis was based aim at selecting areas where the concentration of conservation interests, including scientifically, culturally, historically or educationally important features, is greatest.

These zones, which cover 25 per cent of the land area and are unofficially labelled 'nature parks', are not the subject of conservation easements or of public purchase in their entirety, but their general status must be defined and assured through the instruments of town and country planning, especially those concerning regional and municipal plans.

The reason for this is that general restrictions implied in regional and municipal plans do not entitle private owners to compensation, whereas individual regulations of private property through specific conservation easements can be made, subject to the payment of compensation in full. The same, obviously, applies to public purchases. Consequently, only areas under heavy pressure by the public or of an ecologically or culturally vulnerable character will be purchased by the State or other public entities or made subject to conservation easements.

Examples of larger coherent protected areas partly owned by the State or other public entities, partly subject to conservation easements, and generally surrounded by zones where regional plans recognize the maintenance of the status quo or only slight development, are: Raabjerg Mile (1620 hectares); part of the Skaw Nature Park; around Mossø and Vissingkloster (1780 hectares) in the Nature Park of the Central Jutland Lake Plateau; Mols Bjerger (550 hectares) in the Mols Nature Park north-east of Aarhus; and at Tystrup-Bavelse (3000 hectares) in the Tystrup-Bavelse Nature Park in Central Zealand. A special nature reserve covering the Wadden Sea area is at present under consideration.

All the nature parks mentioned are integrated in overall physical planning as being of national or regional interest from a conservation point of view.

Among the most important scientific reserves are Tipperne (circa 450 hectares) at Ringkøbing Fjord and Vejlerne (circa

6000 hectares) at Limfjorden. There are altogether ten scientific reserves covering circa 1400 hectares of land and inland waters and circa 13,600 hectares of sea area.

Important game reserves include the Hansted Reserve (circa 3400 hectares) in North-western Jutland, the Wadden Sea Game Reserve (circa 70,000 hectares) and the Stavns Fjord Reserve on the Island of Samsø (circa 1745 hectares). There are at present 74 game reserves covering circa 15,000 hectares of land and inland waters and circa 85,000 hectares of sea area. The Hansted Reserve is listed in the UN List of National Parks and Equivalent Reserves.

In the game reserves, regulations are generally confined to hunting and public access. The status of 'game reserve' does not imply any biotope protection.

4.3.2. Finland

The 1923 Nature Conservation Act provides for the establishment of three categories of protected areas on State property:

Nature parks ('allmänna naturskyddsområden') where nature should be maintained in its original state.

National parks ('särskilda skyddsområden') where nature and species of flora and fauna are protected primarily for scientific reasons. Areas of 50 hectares and more may only be established as 'naturskyddsområden' by Act of Parliament.

The third category is called natural monument ('naturminne'). A natural monument may be an old tree, a group of trees or other special natural elements of the landscape.

Establishment of nature parks and natural monuments on private land is possible with the owners' agreement, and there are certain provisions for expropriation. Town planning legislation in Finland (see section 3.3.2.) includes provisions for the establishment of protected areas.

Pursuant to the 1922 Act on the Preservation of Woodlands, vast areas in Lapland have been declared protected woodlands with a view to maintaining traditional forestry practices in the area. There are further a number of so-called nature conservation forests.

There are at present nine national parks and 15 nature parks, all of them included in the UN List of National Parks and Equivalent Reserves. In addition, there are the areas protected pursuant to the town planning legislation, the protected woodlands and the nature conservation forests. All these together cover about 3700 km², being 1.1 per cent of the land area.

Examples of national parks ares

Lemmenjoki National Pack and Pallas-Ounastunturi National Pack (1720 resp. 500 km²) in Northern Finland, Oulanka National Park (107 km²) in Central Finland, and Pyhä-Häkki National Pack (10 km²) in Southern Finland.

Among the nature parks mention should be made of

Sompio and Maltio in Northern Finland, Paljakka and Ulvinsalo in Central Finland, and Karhali and Sinivuori in Southern Finland.

4.3.3. Iceland

As at December 1975, 38 protected areas had been established, pursuant to the 1971 Icelandic Conservation of Nature Act, as follows:

Three national parks ('þjóðgardur') with a total area of circa 380 km², Thingvellir, Skaftafell and Jökulsárgljúfur. National parks may be established only on State-owned land. To qualify, the areas concerned must include features of exceptional interest from a landscape, scientific or historical point of view, and they must be suitable for public access in accordance with certain rules.

Twenty-three areas are protected as nature reserves ('fríðland'). Nature reserves may be areas, often fairly large, of special value from a landscape and aesthetic point of view, and generally under private ownership, or areas, generally smaller in size, with specific scientific features. The range of protection and public access is individually defined for each nature reserve. Their total area is circa 1640 km². Examples of nature reserves are Eldey (a small island south-west of the capital, Reykjavik), Hornstrandir (the north-westernmost point in Iceland), Herdubreidar and Hvannalindir, both in Eastern Iceland. Thingvellir and Skaftafell National Parks and Eldey Nature Reserve are on the UN List of National Parks and Equivalent Reserves.

A further 16 smaller areas, totalling circa 260 km², are classified as natural monuments ('náttúruvaetti'), which may be waterfalls, hot springs and volcanoes and their immediate surroundings to allow for public access. The Askja volcano, Stedji, Geysir and Eldborg in South-western Iceland are examples.

There are seven recreation areas ('fólkvangur'), covering 340 km², administered by the local authorities. Three of them, Raudhólar, Bláfjöll and Reykjanesfólkvangur, are situated near the capital.

Finally, the Mývatn-Laxá (6000 km²) is protected by a special Act of Parliament.

4.3.4. Norway

The 1970 Conservation of Nature Act operates with four categories of protected areas, covering today circa 1.7 per cent of the land area.

National parks may be created for larger natural areas untouched by man or exhibiting specific features. Generally, only State land is involved in national parks, but private land can be scheduled to form part of a park when necessary; for example, to complete a natural geographical boundary for a park.

National parks are established through decision by the King-in-Council (Royal Decree). Rules and provisions for the protection and administration of each park are contained in the Royal Decree, but these are, to a large extent, common for all national parks. The public is, in most cases, allowed access to national parks, but motorized traffic is usually prohibited.

There are 13 national parks in Norway with an area of circa 5000 km². The largest is Øvre Anarjåkka in the Finmark (1390 km²). Other parks are Rago (171 km²) in Nordland, Rondane (575 km²) in Oppland, and Femundsmarka (386 km²) in Hedmark, which all figure in the UN List of National Parks and Equivalent Reserves.

Protected landscapes (landscape conservation areas - 'landskapsvernområder'), of which there are 21 altogether, are selected primarily because of their uniqueness, cultural significance or scenic beauty. They may include wilderness as well as cultivated areas. The oldest and largest protected landscape (73 km²) is Innerdalen in Møre/Romsdal.

Areas of scientific and educational importance may be scheduled as nature reserves, either totally protected or having provisions for protecting specific aspects, such as arctic vegetation, habitat for migratory birds, etc. There are at present a total of 192 reserves serving various purposes. Among the largest are the Nordre Øyeren Ornithological Reserve in Akershus (circa 62 km²) and the Faerdesmyra Arctic Vegetation Reserve (circa 12 km²) in Finmark. Fokstumyra Nature Reserve in Oppland, part of Dovrefjeld, is on the UN List of National Parks and Equivalent Reserves.

Finally, there are 215 natural monuments (nature memorials - 'naturminder'), specific botanical, zoological or geological landscape elements of scientific or historical interest. The biggest group of these consists of old trees or groups of trees. The first-named natural monument, an old oak, 'Den gamle mester', in Buskerud, dates back to 1914.

Outside these four categories are various State-owned areas - notably woodlands - protected in varying degrees through administrative measures.

The 1957 Act on Outdoor Recreation also provides for the reservation of areas for recreational purposes; for example, beach areas and islands in the Oslofjord.

4.3.5. Sweden

In the 1964 Swedish Conservation of Nature Act, distinction is made between four types of protected areas:

National parks, the provisions for the establishment of national parks, their objectives, protection and administration being similar to those in the Norwegian legislation.

There are a total of 16 national parks in Sweden, covering an area of circa 6150 km². The two largest are Sarvik (1490 km²), established already in 1909, and Padjelanke (2010 km²), established in 1962. They are both situated in the northernmost part of Sweden along the Norwegian border. Other national parks worth mentioning are Gotska Sandön (circa 36 km²), north of the island of Gotland, and Dalby Söderskog (0.3 km²) near Lund in Scania. Sarvik, Padjelanke and Gotska Sandön are on the UN List of National Parks and Equivalent Reserves, according to which Sweden is among the ten countries in the world having the greatest amount of area set aside for national parks.

Nature reserves are established for scientific and similar reasons or for outdoor recreation. The Bullerö Nature Reserve in the Stockholm Archipelago, consisting of circa 900 islets and skerries (circa 4.5 km²) with a water area of circa 40 km², is an example of a reserve serving multiple purposes. Raukarna on Gotland and the Stora Mosse-Kävsjö Moors on the Plateau of Southern Sweden are on the UN List of National Parks and Equivalent Reserves. There are nearly 1000 reserves, covering a total area of about 7650 km².

Nature conservation areas form a category of protected areas introduced in a 1974 amendment to the Nature Conservation Act. In conservation areas, protective and administrative measures are prescribed, but are less detailed and less restrictive than those for nature reserves. About 20 areas of this kind have been established.

Finally, it is possible, as in Norway, to declare a group of trees or a geological formation, for example, a national monument.

4.3.6. Provinces with a special status

Some provinces or territories, legally part of one of the Nordic countries, nevertheless enjoy a special status. The Faroe Islands and Greenland form parts of the Kingdom of Denmark, but legislative powers are, to a large extent, including the field of the environment, vested in local parliamentary assemblies. The same applies to the Åland Islands in their relation to the Republic of Finland. Finally, special nature conservation legislation applies to the Norwegian island of Svalbard in the Arctic Ocean.

4.3.6.1. Nature conservation on the island of Svalbard is based on the 1925 Svalbard Act, which resulted in the integration into national law of the responsibilities vested in Norway by the 1920 Svalbard Treaty for, among others, safeguarding and protecting nature and landscape values of Svalbard. The immediate consequences of the 1925 Act were extensive protection measures towards species of birds, animals and plants. In 1973 three national parks (South Svalbard, the Foreland and North-west Svalbard) were established, as well as two major nature reserves and 15 ornithological reserves, covering an area of 27,000 km² or circa 43 per cent of the total land area.

4.3.6.2. Nature conservation on the Faroese Islands is regulated by the Act on Nature Conservation, passed by the local parliamentary assembly, the Lagting, on July 9, 1970. The administrative instruments of the Act are similar to those of Danish legislation, and they can be applied to protect both land and water areas for scientific or other reasons. The Act may be applied also to protect specific features in the landscape, such as waterfalls, cliffs, rivers, lakes, etc., when this is indicated for scientific, historical or aesthetic reasons. It also allows for the protection of species of animals and plants.

4.3.6.3. The 1974 Conservation Act for Greenland covers - like the Faroese Act - the protection of cultural remains, such as ancient monuments and buildings. It provides for conservation measures to protect scientific, educational, historical and aesthetic interests, including the protection of flora and fauna. The National Park of North-eastern Greenland, a Unesco Biosphere Reserve, has been established directly by the Act. This national park is the largest in the world (700,000 km²) or five times as big as the second largest, the Central Kalahari National Park in Botswana. Any disturbance to animal and plant life and their habitats is prohibited, including hunting, fishing, nest harvesting and the collecting of plants.

In addition, the general Act for Greenland on Area Planning, promulgated in 1977, is a comprehensive piece of environmental legislation aimed at wise and socially-conscious use of land and natural resources, and at preventing pollution and the disturbance of ecological balance.

4.4. Protection of particular features of the landscape

As already mentioned, most of the Nordic Acts on nature conservation contain provisions for protecting specific features or elements in the landscape. Such provisions are of a general character; they do not relate to specific localities, but to all features in the open country with particular legally-defined characteristics. They are also examples of general regulation of private property for the benefit of the community as a whole; and as such, they create no right for compensation, as opposed to specifically applied conservation easements.

General protective regulations apply first and foremost to the coastlines.

In Denmark the 1969 Nature Conservation Act (as subsequently amended) prohibits any building, planting, fencing and alteration in the ground on beaches and other strips of coast and also in a zone stretching 100 metres inland from where continuous land vegetation begins. Exemption from this ban is only made in special circumstances. Similar rules (1964/1974 Nature Conservation Act) apply in Sweden. There, however, the ban may be lifted where there are no recreational demands, but, on the other hand, the zone may be extended to 300 metres when the opposite is the case.

In Denmark and Sweden similar rules to the above apply around lakes and along watercourses. In Denmark the protected zone is 150 metres wide, but applies only to public watercourses and to lakes larger than two hectares.

The 1971 Norwegian Act on Coastal Planning includes (cf. section 3.3.4.) provisions comparable to those in Denmark and Sweden.

In Finland provisions for the protection of beaches were introduced in 1969, affording possibilities for building control to safeguard scenic values. They are, however, inadequate as instruments for general coastal protection.

The Danish Conservation of Nature Act is unique in Nordic legislation in that it makes any building within a zone of 300 metres from forest fringes subject to special permission by conservation authorities. Another specific feature of Danish legislation is the establishment of a 100-metre protection zone around fixed ancient monuments in which building, planting and digging are prohibited (see section 5.3.).

4.5. Construction in open country

In section 3.3. above, a survey was given of legislation on planning and building. There are, however, other construction works which are as great a threat to nature as uncontrolled building.

Many of these require planning or building permission, which would only be granted after evaluation of nature conservation interests. Nevertheless, Nordic legislation on nature conservation can prescribe direct control of public construction works by conservation authorities in certain cases.

In Denmark permission by the conservation authorities is a pre-requisite for the construction of roads, the erection of power-lines, and the building of fish dams. Special permission under the Nature Conservation Act is also necessary before interfering with, or physically changing, public watercourses. This also applies to private watercourses with a bottom width

of at least 1.5 metres (other private watercourses may be protected, subject to administrative decision), marshes and bogs of at least 0.5 hectare and lakes of 0.1 hectare or more. Small watercourses on private property having conservation significance can be protected by special arrangement.

In Iceland major construction works may be undertaken only after consultation with the Nature Conservation Council.

The Norwegian Conservation of Nature Act requires a similar hearing for certain categories of construction works, subject to the previous issue of administrative rules. Such rules have been issued with respect to power-lines and power-plants.

The Swedish Conservation of Nature Act generally makes construction works affecting the natural environment (as, for example, power-lines and power-plants) subject to previous submission to the county authorities, which may specify conditions and restrictions. Legislation also contains provisions by which particular types of construction works must always be subject to previous permission by the authorities.

4.6. Protection of flora and fauna

4.6.1. Instruments for the protection of species

A key instrument in protecting species of animals and plants is the protection of their habitats (see section 4.3.), although individual species of flora and fauna may also be directly protected, normally against taking, uprooting or wilful damaging of the species. There may be exceptions to this rule, for example, in the framework of normal agricultural operations.

The two methods of protection may suitably be combined, but the selection of the best one should usually be based on an evaluation of the kind of threats to or status of the species.

It is a general principle in Nordic legislation that all species of wild mammals and birds, which are not scheduled as game, are totally protected. Norway is an exception, but even there, this principle is expected to be introduced.

Legal provisions for the protection of species of flora and fauna are found partly in the hunting legislation, partly in the legislation on nature conservation.

4.6.2. Denmark

In Denmark the hunting of wild mammals and birds is regulated in the 1967 Hunting Act. This Act is, basically, a conservation instrument in that it prohibits the hunting of species for which no hunting season is explicitly mentioned. Hunting seasons are scheduled for well over 50 species of birds. Consequently, all other species are totally protected

(in Denmark a total of circa 380 bird species are found, of which circa 100 are common). Among the mammals, for example, all whales, seals, otters and martens are totally protected. The Hunting Act provides for the establishment of game reserves (see section 4.3.1.). Plants, reptiles, amphibians and insects may be protected totally or in specified areas under the Nature Conservation Act. The most recent protection decree of a species of flora concerns asplenium septentrionale. Among the rather small number of animals, other than mammals, which are totally protected, can be mentioned the mountain lizard (triturus alpestris). A decree generally protecting reptiles and amphibians is expected shortly.

4.6.3. Finland

Some 110 rare or threatened species of flora are protected under the 1923 Finnish Conservation of Nature Act. Protection of a species is, in some cases, combined with habitat protection, as in the case of, for example, the Clematis alpina ssp. sibirica in the Lappfjärd.

The 1962 Hunting Act specifies game species and their hunting seasons. Other species of fauna are protected through the Conservation of Nature Act. As far as bird species are concerned, this Act totally protects all those not specifically declared game.

4.6.4. Iceland

The 1971 Icelandic Conservation of Nature Act totally protects 31 species of flora. Bird protection is regulated by a special Act dating from 1966, the principles of which are similar to those of the Danish Hunting Act. Other animal species may be protected by the Conservation of Nature Act.

4.6.5. Norway

In Norway the 1970 Conservation of Nature Act provides for the protection of threatened species of plants. Species of fauna may be protected through either the Conservation of Nature Act or the 1951 Hunting Act.

Under the Nature Conservation Act, flora has been protected by the establishment of 11 protected areas, and fauna by 87 (mainly bird fauna). In nine areas, protection measures cover both flora and fauna. Under the Hunting Act, 40 species of birds are totally protected. A revision of legal provisions protecting fauna is in preparation.

4.6.6. Sweden

The Swedish rules are, by and large, similar to the Danish. Wild mammals and birds are treated in the 1938 Hunting Act

(with later wide-ranging amendments), which is, basically, an instrument of conservation. Other species of animals and flora may be protected under the Conservation of Nature Act, generally combined with habitat protection. There are well over 400 combined fauna/habitat protected areas, the largest being the Sjaunja Bird Protection Reserve (2900 km²), which is on the international list of wetlands of international importance to bird fauna, the so-called MAR list.

4.6.7. Nordic cooperation

The Nordic countries cooperate in the protection of plants and animals (see section 1.3.). The bear and the wolf are, with few exceptions, protected, partly through coordinated action, in Finland, Norway and Sweden. Another example is the common classification of biotopes for birds, published in the book 'Survey of important bird areas in the Nordic countries' (1973). The book was issued in preparation for the adherence of the Nordic countries to the Convention on Wetlands of International Importance Especially as Waterfowl Habitat (Ramsar Convention), now ratified by all the Nordic countries (most of which have also ratified the 1973 Unesco Convention concerning the Protection of the World Cultural and Natural Heritage). Mention should also be made, in this context, of the 1973 Agreement between Canada, Denmark, Norway, US and the USSR on the Conservation of Polar Bears, and of the fact that all Nordic countries, with the exception of Iceland, have ratified the 1973 Washington Convention on International Trade in Endangered Species of Wild Fauna and Flora.

Denmark, Norway and Sweden are among the signatories of the 1979 Bonn Convention on the Conservation of Migratory Species of Wild Animals and, together with Finland, have signed the 1979 Convention on the Conservation of European Wildlife and Natural Habitats.

4.6.8. Threatened species of animals and plants in the Nordic countries

As a result of a common Nordic research project, the Nordic Ministerial Council published in 1978 the book 'Hotade djur och växter i Norden' ('Threatened Species of Animals and Plants in the Nordic Countries') NU A 1978:9, with an English Summary.

Using a categorization inspired by that of the IUCN Red Data Book, the following can be read out of the book:

'Of 90 considered and investigated animal species, eight species have been categorized as endangered, according to category 0 (extinct in the Nordic countries since 1850), 23 species are considered immediately endangered in the Nordic countries (category 1), 31 species are considered vulnerable to environmental changes (category 2) and 18 species are considered rare (category 3).

'Eight of the immediately endangered animal species are present only in one of the countries in question, and six of them only in two of the countries. About eight of the species in question are to be found in a few places only or within a limited area. Thirteen of the immediately endangered species are fully protected by law in all the Nordic countries.

'Nearly 190 vascular plants have been considered and surveyed in this project. Fifteen have been excluded, as they were not spontaneous; they were critical cases or very little known. Six species are extinct for sure or probably extinct in the Nordic countries (category 0). Twenty-four species are considered endangered (category 1) and 60 species are considered vulnerable (category 2). The number of species in the material considered rare (category 3) is 46. The non-spontaneous plant species and the approximate number of 20 endemic species, or sub species, present in the Nordic countries have not been included in the analyses and are, thus, not accounted for in the material.'

4.7. Nature conservation planning

4.7.1. Objectives

Landscape analyses and nature conservation planning have been mentioned as instruments in implementing nature conservation legislation (see section 4.2.). Systematic analyses of the open country can provide the foundations for a conservation strategy or indicate the boundaries of national parks. They may also enable proper evaluation by the conservation authorities of proposed construction projects affecting the landscape, and they form part of the background material in general planning decisions and major development projects (see section 3.3.1.).

More profound analysis and strategic planning may prove necessary in areas already protected or in potential conservation areas with a view to assessing their carrying capacity, their infra-structure requirements and management strategies.

Analyses and planning of this kind are practised in all Nordic countries, although varying in presentation and content. Only in Denmark is conservation planning thoroughly based on legal provisions.

4.7.2. Denmark

In Denmark a preliminary landscape inventory had already been presented in the late 1960s, and in 1972 a first generation landscape classification was issued, covering the entire country. The classification was the result of a detailed regional (county by county) registration of conservation interests, including a number of scientific interests (ornithological, zoological, botanical and geological), cultural interests, (archaeological, ethnological, architectural or historical) and recreational interests related to, for example, scouting, fishing, sailing, bathing or common tourist use.

Landscape classification maps (1:100,000) are available and are continuously revised. They divide the country into three zones according to their conservation interests, ranging from 'areas of the greatest interest' (zone 1: dark green), 'areas of interest' (zone 2: lighter green), and 'the remaining open country' (zone 3: pale green).

The landscape classification maps and the regional landscape analyses constitute an important contribution to regional planning by the nature conservation sector.

The 1978 amendment to the Nature Conservation Act introduces provisions for the establishment of a country-wide set of regional (county) conservation plans, partly with a view to implementing the regional plans (as a form of sectoral plan parallel to, for example, water supply plans and road construction plans), partly to serve as guidelines in planning for other purposes and, in addition, to form the basis for developing actual conservation policy.

Conservation plans are prepared in four phases: (1) a data collection phase, (2) a phase where collected data are compared and inter-related, (3) an evaluation phase where optimal conservation demands are identified, and (4) a planning phase where phase (3) results are assessed in relation to other planning interests.

As a contribution to this planning effort, the National Agency for the Protection of Nature, Monuments and Sites (Fredningsstyrelsen) has issued a map (1:500,000) showing 'Larger Nature Areas of National Importance' (1979), covering 29 per cent of the land area (ref. 'Planning for Nature Conservation', Fredningsstyrelsen 1979).

4.7.3. Sweden

In Sweden a similar inventory, although less systematic and detailed, was undertaken within general inventory work initiated in 1971, 'hushållning med mark och vatten' ('area and water management'), forming the foundation of the national

planning directives of the Swedish government. Based on county registrations in circa 5000 localities of scientific, cultural or recreational valuer 800 areas were selected as being of national interest. A general revision of the principles of area inventories is under preparation. Finally, it should be mentioned that areas already protected are subject to intensive management planning.

In 1977 the Swedish Parliament (the Riksdag) adopted resolutions concerning supplementary guidelines on national physical planning for certain unspoiled mountain areas and for certain rivers in Northern Sweden.

One resolution implies that 14 major mountain areas will be protected against all major development, such as buildings, roads, hydraulic power stations, major tourist installations and intensive forestry. The Riksdag resolution will provide a basis for decisions made by various authorities, which might affect land use in the areas concerned.

Also in 1977 a national inventory of Sweden's wetlands was begun. This includes identification of the country's wetlands and assessment of their importance for nature conservation and their long-term value as a natural resource.

4.7.4. Norway

In Norway inventory work has been undertaken for some years, although not required by law. Management plans are worked out at county level for different categories of protected areas or other important habitats, such as wetlands, nesting areas for sea-birds, deciduous forests, etc. Plans are also in preparation for larger protected areas, including a variety of biotopes.

4.7.5. Finland and Iceland

Neither in Finland nor in Iceland is the open country systematically analysed. According to the Icelandic Conservation of Nature Act, the Nature Conservation Council is responsible for the registration of areas worthy of protection. The first inventory describing circa 90 areas was published in 1975. The second, in 1978, lists a further 150 areas. Special registrations of coastal areas, lakes and watercourses have been initiated. In Finland some national park planning has been undertaken and certain specialized analyses have been initiated.

4.7.6. Nordic cooperation

Nordic cooperation in the field of landscape analyses and nature conservation planning has been going on since 1973 (see section 4.1.).

Following the report on areas in the Nordic countries, important from a conservation of nature point of view (see section 4.1.), the publication 'Naturgeografisk inndeling af Norden') ('Subdivision of Norden in Natural Geographic Regions'), with an English summary (Nordic Council NU B 1977:34), was issued in 1977. Ultimately, aiming at protecting typical and representative nature and landscapes with their contents of fauna, flora, microflora and genetic resources, it subdivides the Nordic countries into 60 regions, primarily based on vegetation and flora, but including other factors.

At present attempts are being made to develop common principles for landscape analyses with a view, partly to securing a biotope and landscape classification in all Nordic countries, and partly to creating an instrument for the preparation of Nordic inventories based on national lists. Reports have already been published on bird species and bird populations as indicators in landscape analyses and conservation planning (Nordic Council NU B 1979:7), and on experiences in the field of landscape analyses in the Nordic countries at national, regional and local level.

4.8. Public access to the landscape

4.8.1. Finland, Norway and Sweden

In Finland and Sweden public access to nature, the so-called 'allemandsret', is founded in common law, whereby everybody has the right, subject to certain limitations, to cross, at least on foot, other persons' property, and to remain there for short periods. This principle of common law is now quoted in the preamble of the Nature Conservation Acts of the two countries. The owner's permission is not required before entering his property, and he may not hinder access to his property by fencing or prohibitive signs. The principle even extends to the picking of flowers, berries, etc. When entering another man's property, due consideration must be shown to him, his property and economic interests, and the environment in general, including animals and plants.

In Finland more detailed rules on public access are further found in a special Act on Outdoor Recreation (of 1973).

In Norway a similar principle of public access is confirmed in the 1957 Outdoor Recreation Act. The Act states the right of free access for all to 'udmark', uncultivated areas with no buildings. As in Finland and Sweden, considerate behaviour must be shown. Picking of berries is allowed, except in the Finmark where certain biotopes are protected. The Outdoor Recreation Act even allows for the expropriation of private property for recreational purposes, although for a limited length of time only.

Although it is part of the aim of legislation on nature conservation to open up the landscape to the general public,

public access may often prove dangerous or threatening to the natural features which the same legislation is there to protect. A well-known example is the use of snow scooters and other motorized transport in vulnerable areas. Norwegian legislation on nature conservation, therefore, facilitates bans on traffic in certain areas, such as, national parks, totally or for certain periods when necessary for fauna protection. In 1977 both Finland and Norway introduced special legislation to limit motorized traffic in uncultivated areas.

4.8.2. Denmark

There is no common law principle of public access in Denmark. Since the first Nature Conservation Act in 1917, it has, therefore, been an important social element in conservation legislation to give the population access to nature and recreational possibilities. The 1969 Nature Conservation Act now in force introduced regulations for public access, taking geographical conditions into consideration (in reality, very similar to the common law principle in the other Nordic countries). Public access includes the right of passage on foot, short stays and bathing from any beach or other strips of coast where there is no continuous turf or other land vegetation. Short stays and bathing, however, are not allowed within 50 metres of dwelling houses. The public further have access to and the right to stay in publicly-owned forests, and in private forests larger than 50 hectares. Finally, the public may pass through and make short stays on uncultivated areas no nearer than 150 metres to any dwelling house. The public may enter forests and uncultivated areas only by public roads or tracts or otherwise legally, for example, from a beach. Areas otherwise open to the public may be closed, in whole or part, for specified periods, but such closure would usually be subject to decision by the conservation authorities. Apart from publicly-owned forests, passage is usually only allowed on foot. Amendments to the Nature Conservation Act in 1975 and 1978 introduced certain new restrictions, mainly for reasons of fauna protection. Private motor boat traffic may be regulated in sea areas, and on watercourses, general restrictions on traffic may be made. Uninhabited islands may be closed for reasons of bird protection, for example.

4.8.3. Iceland

The 1970 Icelandic Conservation of Nature Act provides for public access to publicly-owned areas. The public further have access to unfenced and uncultivated private land. The Nature Conservation Council may make additional rules regulating public access within the framework of the legal provisions, which also include a general requirement for considerate behaviour.

4.8.4. Nordic cooperation

The common law principle of public access, and the consequent reluctance to regulate public access by specific statutory provisions, make the range of public access difficult to define in detail. Certain differences in the 'rules' and in perceptions of their implementation between the countries have led to problems in border regions. The question of harmonizing the rules as far as possible to overcome these problems has been raised in the Nordic Council. Information on the rules of public access is also the subject of coordinated Nordic effort.

5. PROTECTION OF ANCIENT MONUMENTS, BUILDINGS AND URBAN ENVIRONMENTS

5.1. Introductory remarks

Protection of nature and landscape elements of the environment is not enough. Man-made features also need protection since the totality of the environment includes aspects caused or influenced by man.

The cultivated landscape - covering all but a tiny fraction of Denmark - could be said to form the link in a conservation context between the protection of wild fauna and flora and untouched nature on the one hand, and the protection of the finest examples of architecture on the other. What the two extremes have in common is their need for protection through legislation, and through wise physical planning and area control.

Monuments and buildings were among the first features in the environment to be the subject of protective legislation in the Nordic countries, as in Western Europe in general, for reasons similar to those surrounding legislation on nature conservation (see section 1.6.), and following much the same lines of developments from legislation concentrating on outstanding 'gems' to one aimed also at cultural or architectural entities or coherent environments as, for instance, larger town areas. Legislation on the preservation of monuments and buildings has, thus, developed into a planning instrument.

The protection of monuments and buildings presents special problems, however, of both an economic and a practical nature. When protecting a landscape, it will often be sufficient to safeguard it against potential disturbance. A building, on the other hand, needs constant maintenance and restoration, which is expensive and requires special skills. Is it reasonable to demand a private owner of a valuable building to pay all these costs himself if it would be more profitable to clear the site and build anew? A cultivated landscape usually remains available for agriculture despite conservation easements. What

is to be done, though, with a manor-house which can no longer be lived in because of the cost of upkeep, an old industrial building no longer fit for modern production or an old railway station on a closed-down line?

5.2. Legislation in the Nordic countries

These and other problems have made it necessary to establish special administrative units with archaeological and architectural expertise and to provide for public financial support for restoration works, etc. The complexity of the problems has caused fairly wide differences in Nordic legislation, although all the countries have shown an awareness of the necessity for protecting monuments, buildings and environments of cultural or historical value.

Legislation in the Nordic countries in this field can suitably be divided in three groups: ancient monuments, individual buildings and urban environments.

'Ancient monuments' are generally defined as constructions, usually ruins, and constructions out of use, whilst 'buildings', in this context, means buildings of cultural or historical value still in use or usable for their original or other purposes. The term 'monuments' has nothing to do with size or grandness in this context. Valuable buildings may be protected under the legislation on the preservation of buildings, whilst ancient monuments are covered by a special legislation. The distinction between the two categories is not sharp, but it is, nevertheless, important, as ancient monuments are usually subject to general protection, whereas the protection of a building is subject to individual decision by the conservation authorities.

For the oldest examples of cultural heritage, this problem no longer exists in Norway, where all buildings dating from before 1537 (the year of reformation in Norway) are automatically protected by legislation introduced in 1978, while in Denmark, where similar legislation was introduced in 1979, the operative date is 1536 since the reformation came one year earlier. In the latter case, buildings erected before 1536 are automatically scheduled as ancient monuments under the Protection of Buildings Act.

5.3. Legislation on ancient monuments

The term 'ancient monument' comprises a great variety of ancient remains. In Danish legislation, mention is explicitly made of barrows, stone cists, castle mounds, defensive structures, ruins, bridges, mill-races and dams, stonebanks, stonerows and milestones.

The principal Danish regulations concerning the protection of ancient monuments are found in the 1969 Conservation of Nature

Act. Ancient monuments, numbering circa 26,000, are considered as being an integral part of the landscape. Finland and Sweden have special Acts on ancient monuments, dated 1963 and 1942 (revised in 1976) respectively. The Norwegian Act of 1978 on the Cultural Heritage covers both ancient monuments and buildings.

A common feature in the legislation of the four countries is the automatic protection given to most categories of ancient monuments. This means that the monuments must not be damaged, and alterations or other works changing their character can only be undertaken with the permission of the conservation authorities.

In Denmark ancient monuments are as mentioned in section 4.4., surrounded by a protection zone of 100 metres. Within this zone, building, planting and digging are subject to special permission.

There is a five-metre protection zone around ancient monuments according to the Norwegian Cultural Heritage Protection Act, but under both Norwegian and Swedish legislation, individual protection zones can be established by administrative decision. In Iceland and Finland similar provisions can be applied in some cases. Icelandic legislation does not provide for automatic protection, but ancient monuments may be protected, subject to decision by the Keeper of National Antiquities under the National Monuments Act of 1969.

5.4. Legislation on preservation of buildings

The criteria for the selection of individual buildings worthy of preservation show similar features in the Nordic countries. Buildings must be of special value from a cultural, historical or architectural point of view. There are, however, minor variations. In Iceland the 1969 legislation makes a distinction between class 'A' preservation (buildings protected in their totality) and class 'B' preservation (protection of certain features in a building). A similar distinction existed in Denmark before the 1979 Preservation of Buildings Act.

Among the Danish criteria for preservation is a rule stating that buildings should generally be more than 100 years old, but the rule is not exclusive. Younger buildings may be scheduled for preservation when this is indicated for specific reasons (for example, an acute threat to the building). No age limits are specified in the legislation of the other Nordic countries. However, the Swedish Preservation of Buildings Act states that to be made subject to preservation, a building must be old enough to allow for its merits to be judged in a historical perspective. Practice shows, though, that a building from the 1940s can fulfil this condition.

The legal effects in all countries of a preservation decision are that alterations and other building operations affecting

the original structure may be undertaken only with the permission of the conservation authorities, and that demolition of the building can be prevented, if necessary, through compulsory purchase of the property by the State.

In Iceland only individual buildings may be scheduled for preservation.

Legislation on preservation of buildings in Finland, Norway and Sweden, on the other hand, can also apply to the protection of groups of buildings. Danish, Swedish and Norwegian legislation makes possible the additional protection of the immediate surroundings of a building.

In Denmark, Iceland and Norway public as well as private buildings may be scheduled for preservation, while in Finland, State-owned buildings of architectural and historical value are covered by special legislation (1965). In Sweden buildings owned by the State cannot be scheduled for preservation, but may be protected by special decree.

In all Nordic countries, legislation provides possibilities for grants or loans towards meeting the costs of restoration works. Some 3000 individual buildings are scheduled for preservation under the Danish Preservation of Buildings Act- To this must be added buildings dating from before 1536, which have not been individually scheduled, but are automatically protected under the 1979 revision of the Act. About ten per cent of the 3000 are castles and manor-houses. Some 30 per cent of all buildings are situated in villages or in the open country, and the remaining 70 per cent in towns. Copenhagen has about 720 buildings scheduled for preservation, Ribe has about 100, and Elsinore about 75. Other towns with many houses scheduled for preservation are Dragør, Tønder, Rønne and Faaborg. Church buildings belonging to the State (Lutheran) Church (circa 2000) are not covered by the Preservation of Buildings Act, but protected by special legislation.

In Finland only 30 buildings are protected by the Preservation of Buildings Act. The Act is outdated, and preparations for new legislation are, as in Sweden, in hand.

Under Icelandic legislation, 80 buildings are scheduled for preservation, 19 through government decision, and the rest through municipal decision.

In Norway about 2000 buildings are scheduled for preservation. To this should be added all buildings dating from before 1537, which are automatically protected, and church buildings which are, to a certain extent, protected by special legislation.

Some 450 buildings are protected by the Swedish Preservation of Buildings Act. There are a further 350 protected State buildings (see above) and about 2800 churches.

In addition, in Denmark, Finland and Sweden other buildings are protected through building or planning legislation (see below).

5.5. Protection of the built-up environment

In all Nordic countries, except Iceland, building and planning legislation includes provisions for the protection of individual buildings and urban and other built-up environments.

The Danish rules are found in the Municipal Planning Act (1975), which allows municipalities to pass local planning by-laws, making demolition or alterations of existing buildings subject to municipal permission. All major building and construction works shall be based upon local planning by-laws, and any operation, which the provisions of a local planning by-law could prevent, may be halted for one year. It is among the general aims of the Act to include, in the context, of planning, 'protection of groups of buildings and urban environments'. The Preservation of Buildings Act places responsibility on conservation authorities to assist local authorities in the implementation of the Municipal Planning Act in this respect.

In Finland town planning by-laws under the Building Act are of great importance in the protection of architectural, cultural and historical values or environments in towns, especially since individual buildings and their surroundings may be protected by such by-laws.

The 1965 Norwegian Building Act includes the protection of cultural and architectural values among the aims of planning at local and regional level. Municipal regulatory plans prevent building, construction and land use contrary to the aims of such plans. Protection of buildings and urban environments through regulatory plans or building by-laws may include their surroundings.

In Sweden the 1972 Building Act and the Building Regulations dating from the same year are also instruments for the protection of architectural values. A town planning by-law under the Building Act may define so-called 'K-areas' or 'Q-areas' of cultural and architectural value with the consequence that other interests in the area must conform to architectural and cultural considerations. Other provisions in the Building Act enable local authorities to prevent demolition of valuable buildings for a specified period.

Nordic legislation on building and planning, thus, includes provisions aimed at both the direct protection of buildings and environments of cultural and architectural value, and also at defining objectives and the scope of the planning effort, which may greatly - although indirectly - assist in protecting built-up environments.

A valuable, if not necessary, aspect of planning the protection of architectural values is the compilation of inventories and preservation strategies. Such inventories have been made for some 50 towns and suburbs in Denmark. A special inventory of cultural and architectural values was compiled in Sweden within the framework of national planning.

It is difficult to find the exact number of buildings protected through building or planning by-laws. In Denmark the number of buildings protected this way is likely to be close to 20,000. A survey as of January 1, 1979 shows that there are about 60 local planning by-laws directed at the protection of architectural values and urban environments and that 79 municipalities, or circa 30 per cent, are preparing some sort of protection of their built-up environments. In Sweden there are some 3000 buildings in the so-called 'K-areas'.

5.6. Legislation in provinces with special status

In Greenland protection of ancient monuments and buildings is among the objectives of the 1974 Conservation Act (see section 4.3.6.3.).

The Faroe Islands have a special Act on the Preservation of Ancient Monuments and Buildings (1948).

The Aland Islands and Svalbard have provisions allowing for the protection of the cultural heritage.

6. CONCLUSIONS

6.1. The character and purpose of this overview precludes the drawing of any set of conclusions about, for example, differences and similarities in the environmental legislation of the Nordic countries. As has already been indicated in the Introduction, no attempt will, therefore, be made to do so.

On the other hand, it is clear that such conclusions would add to the overview. For this reason, a summary of some of the conclusions from Professor Bertil Bengtsson's 'Nordic Environmental Law' (1976), already mentioned in the Introduction, will be given, even though Bengtsson, himself, qualifies them as 'tentative conclusions'.

6.2. Bengtsson points out how striking the general material similarities are in the environmental legislation of the Nordic countries despite their formal differences, this leading to parallel levels of effectiveness. Systems of public administration also have common features. The same applies, in some degree, to rules governing compensation for environmental damage, while those concerning penalties for environmental offences suggest that the Nordic countries and Finland need to thoroughly overhaul their systems of legal sanctions. Despite the fact that substantive differences in these regulations may be so small as scarcely to justify any attempt to achieve uniformity, Bengtsson feels that each individual Nordic country can learn much from the others, which can be incorporated into their legislation, especially various legal techniques for solving environmental problems.

6.3. With particular reference to nature protection legislation - and, to some extent, to that for the protection of cultural remains - Bengtsson emphasizes the importance of law's effectiveness in limiting landowners' rights without overburdening the resources of the public sector. This problem is closely related to general planning legislation, and in this regard, Bengtsson considers that considerable development is currently taking place throughout the Nordic countries. Public control is becoming more effective and objective, while individual rights to compensation are diminishing, especially with respect to neglect of opportunities for appropriate utilization.

6.4. Regarding general control of land use - which, in this context, embraces not only control of areas of conservation priority, but, in principle, all open land - Bengtsson considers that only the Danish and Swedish law fulfil environmental requirements.

6.5. Concerning public access, passage and sojourn in natural areas, Bengtsson points out that the public's rights in the individual Nordic countries do not differ greatly in principle. However, he emphasizes the value of the more detailed legal provisions, in this connection, which occur in Norway and Denmark. The latter, in particular, has made considerable progress in laying down clear limits for the respective rights and responsibilities of the public and the private landowner.

6.6. Although these conclusions are now three-four years old, they remain, by and large, valid, although some of the differences identified, particularly in relation to land-use planning legislation, are becoming less pronounced. It can be stated that, in a general sense, there is a clear trend in the development of Nordic environmental law for the substantive differences still existing in individual legislations to continue to be reduced towards a more uniform pattern.

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