



# NATURE IN FOCUS

**BULLETIN OF THE EUROPEAN  
INFORMATION CENTRE  
FOR NATURE CONSERVATION  
COUNCIL OF EUROPE**

1974 N° 18

## NATURE IN FOCUS Number 18

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"Nature in Focus" is published in English with summaries in German and in French with summaries in Italian by the European Information Centre for Nature Conservation of the Council of Europe, 67006 Strasbourg Cedex, France.

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Printed by: Pillet SA, Martigny, Switzerland

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# EDITORIAL



A. C. DURIE, C. B. E.  
President of the  
Alliance Internationale de Tourisme  
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It is far from easy to establish just where the motor car stands among the various causes of pollution. According to a recent study by Japanese experts (summer 1973), motor vehicles are responsible for deterioration of the atmosphere and the environment to a high degree, with small cars, oddly enough, apparently more harmful than big cars.

In this connection, however, it is significant that the Declaration by the European Conservation Conference, organised by the Council of Europe in 1970 — whose President was the eminent scientist Mr. Leprince-Ringuet — mentions neither "motor-cars" nor "tourism". Without going so far as to say that this absolves motor vehicles from all blame, we can nevertheless affirm that recent studies cast some doubt on the degree of pollution caused by motor traffic.

Many studies have been made on the problem in an attempt to identify the various aspects: purely scientific (physical and chemical), medical, social or even purely financial. An interesting work, "Possibilités de placement dans la structure de la lutte contre la pollution aux Etats-Unis", published early in 1972 by the Banque Genevoise Ferrier, Lullin & Cie, recalls reasonably enough that not only must air pollution be dealt with but also water pollution and solid waste disposal (to which should probably be added soil pollution). Vast investments are being earmarked in American industry for these purposes.

We cannot close our eyes, however, to the constantly increasing number of motor vehicles on the roads and the disadvantages which this increase may present from many points of view. Cars are used for both work and pleasure, in proportions that have not yet been determined.

It is unthinkable that we should do without the private car for business, even if some restrictions are possible. Such a regression would constitute a retrograde step for civilisation as a whole.

Tourism, for its part, is one of the most significant phenomena of our times, both economically and culturally. It has been said, sometimes wrongly, that it is its own enemy. But while it may be possible to limit its harmful effects, there can be no stopping its expansion on a vast scale. If we are to be realistic, we must take tourism into account in all our forecasts. It is of basic importance to the budgets of many states as it is an important source of revenue. At the same time, on account of its present intensity, which there is every reason to expect will increase still further, it nevertheless remains man's most effective physical and cultural distraction.

It can and must contribute to combating pollution and the degeneration of nature and natural sites. One means of success lies in national, regional and urban planning. The 5th Congress of the International Touring Alliance (AIT) will in fact concentrate on what is to be done at these three levels. Where else must we look for a solution? According to one view, in the balance between well-regulated tourism and the necessary conservation of nature which must be found and translated into technical, budgetary and legislative measures.

In view of most countries' present day political and social structures, the role of private organisations is decisive. Tourism is the leisure occupation most suited for bringing people into touch with nature. One of the non-governmental organisations' most important tasks is to educate the tourist. Since the end of last century, the organisations affiliated to AIT, which was founded in 1898, have been indefatigable in their efforts to conserve nature and historical and cultural sites. Their achievements, which have often been of great importance and sometimes brought them fame in the promotion of a form of tourism that is wholesome and respects the natural environment, are particularly numerous. Let it suffice, as an illustration of



the diversity of their activities, to mention :

- the construction of the Corniche de l'Estérel road, which enjoyed the largescale co-operation of the French Touring Club from its inception ;
- the excellent publications of the Italian Touring Club which constitute an unrivalled collection for tourists ;
- the achievements of the ANWB department of leisure in The Netherlands and the creation of a fund to contribute to restoring works of art, etc. ;
- the publications of the Automobile Association, such as "Treasures of Britain" ;
- the purchase, by the Belgian Touring Club, or its intervention with the view to their preservation, of such sites as the "Ruines de Franchimont", the "Cascade de Coe", the "Moulin de Doel", etc., or again the provision of view-points, landmark indicators, etc. ;
- the approaches made by the Polish Tourist Company, (PTTK), founded in 1873, to its authorities, one result of which has been the appointment of certain citizens as "social protectors", etc.
- the catalogue of the oldest trees in certain regions in Turkey, one of the achievements of the Turkish Touring and Automobile Club (TTOK).

Tourism is not confined to travel, short stays, recreational activities, and getting to know other peoples. As has been said, it is also the acquisition of culture. Tourism and the conservation of nature and monuments go hand-in-hand. Tourism implies the conservation of cultural sites and the protection of the environment. Consequently, to allow them to deteriorate is to impair one of its major qualities, and to destroy one of its most attractive features.

Much damage can be avoided by tourist education, to which the private organisations, operating in the public interest, are unreservedly dedicated.



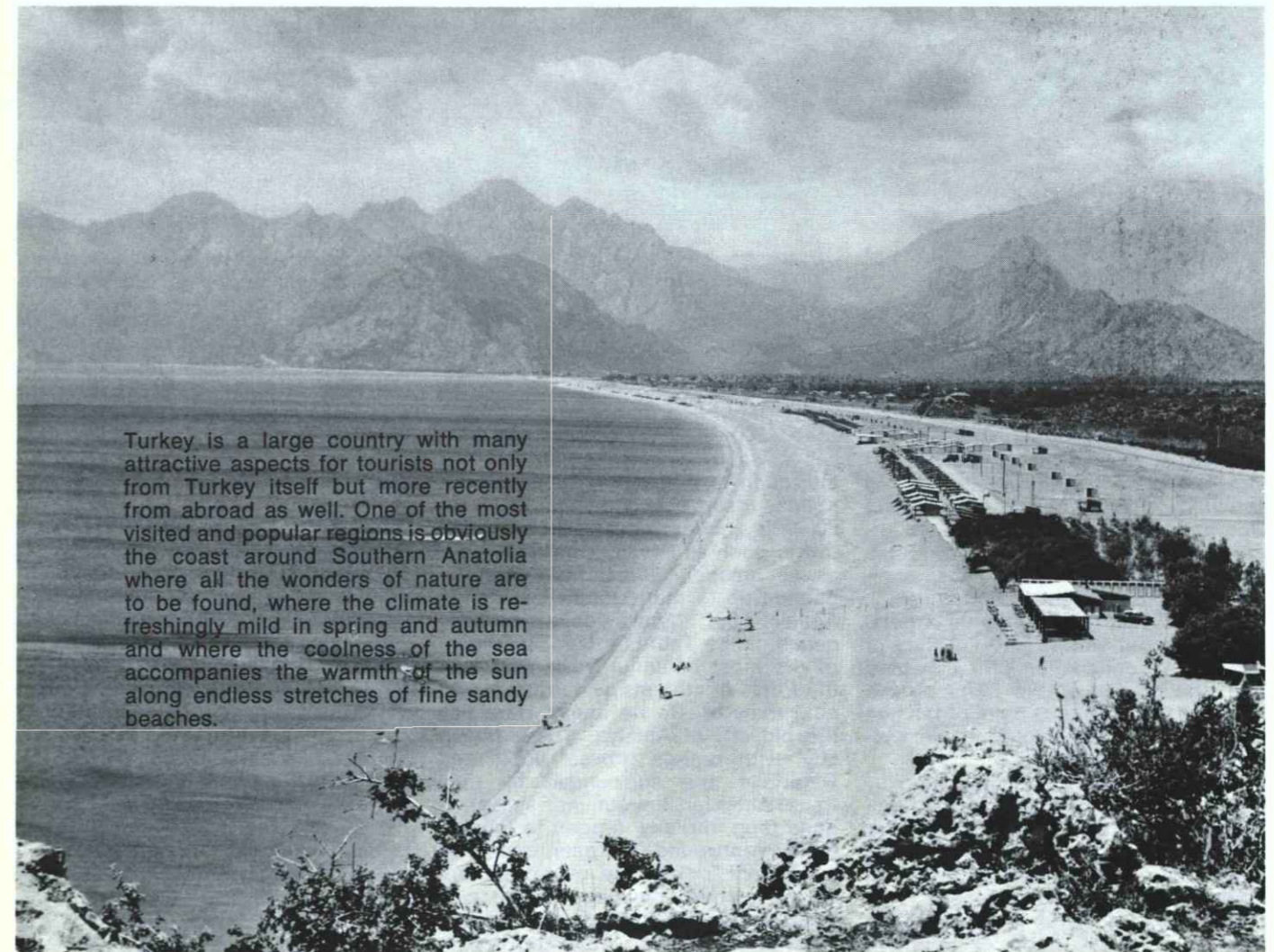
*The countries around the sunny Mediterranean have, for a long time, enjoyed the favours of leisure-seeking tourists from Europe, the United States and further afield. France, Italy, and Greece, Spain and in more recent years Portugal, Morocco, the Balkan countries and Turkey have become accustomed to and to a certain extent dependent upon tourists who, for shorter or longer spells, seek the sun and the sea, the historical setting, the local culinary specialities and that inimitable alluring calm and tranquillity which make up the Mediterranean.*

*These ancient countries, where man has toiled and warred for many centuries, are becoming aware that the commodity that tourists are seeking and for which they are willing to pay, does not have unlimited resources. As elsewhere, the new consciousness of managing natural resources is being applied by opening up, on the one hand, these resources — coasts, forests, shooting and fishing grounds — but on the other hand, safeguarding them against over-exploitation, pollution and possible loss.*

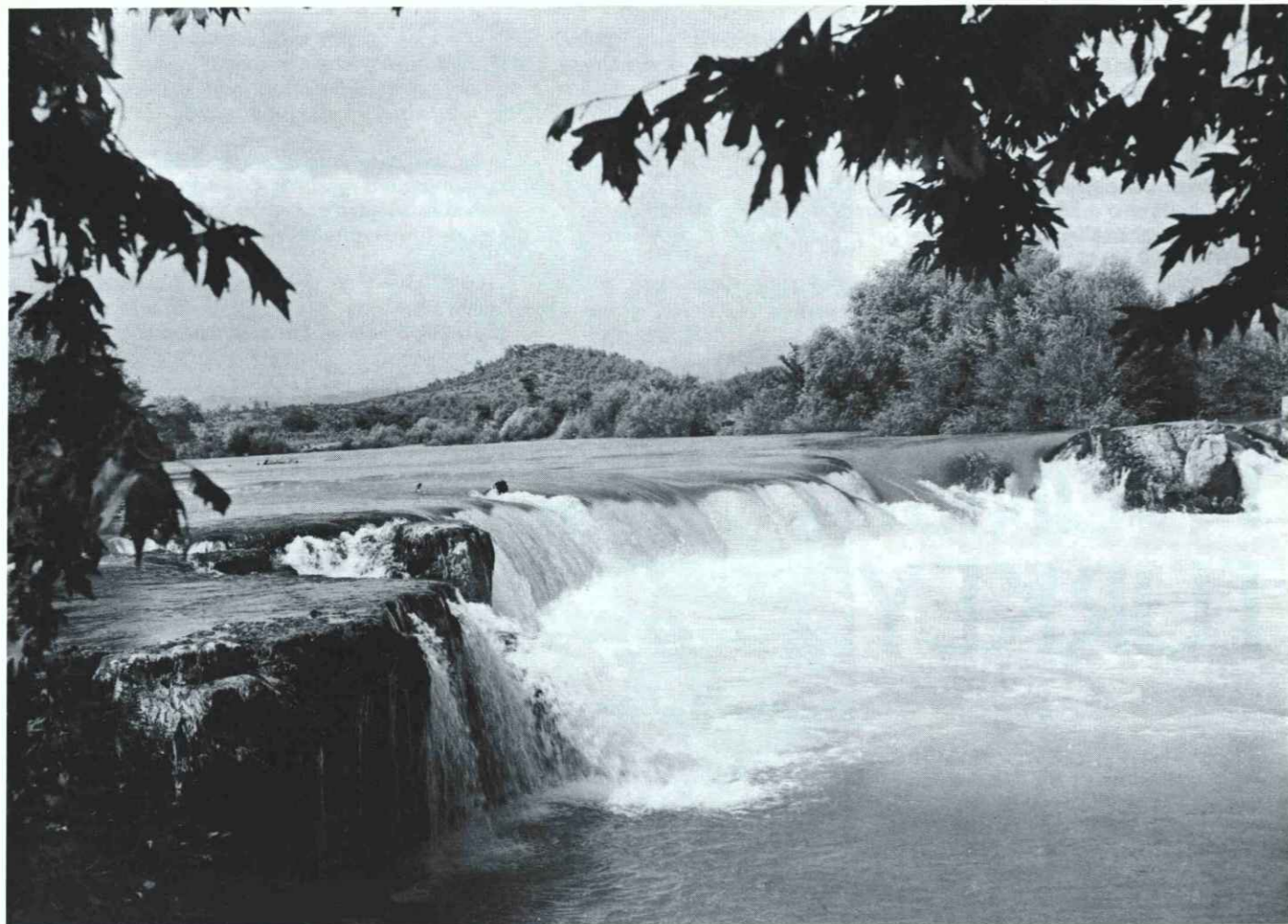
*The editors of Nature in Focus have asked the two leading specialists in Turkey to give their views on how their old-young country is facing up to the demands of modern tourism; the director of one of the Netherlands' national parks points out how, on a smaller scale, a nature reserve which lies close to a metropolis and consists of one of the most vulnerable types of landscape, dunes, does keep its original character while serving as leisure area for millions.*

# TOURISM AND TURKEY

**Hasan ASMAZ**  
President of the  
Turkish Association for the Conservation  
of Nature and Natural Resources  
Ankara, Turkey



Turkey is a large country with many attractive aspects for tourists not only from Turkey itself but more recently from abroad as well. One of the most visited and popular regions is obviously the coast around Southern Anatolia where all the wonders of nature are to be found, where the climate is refreshingly mild in spring and autumn and where the coolness of the sea accompanies the warmth of the sun along endless stretches of fine sandy beaches.



*Lush forests embracing cool streams.*

A typical town here is Bodrum, with its surrounding pine forests and clear bays. People relax here, where history goes hand in hand with the modern world of today, where the world-famous poet "The Fisherman of Halicarnassus" is said to be still alive at sunset and on moonlit nights. The old windmills high up on the hills around Bodrum look down both upon its ancient fort and its hotels, camping sites and boarding houses with their culinary delights and celebrated wines. Closeby is Marmaris, another typical little town but with a different kind of beauty: a continuation of a thousand and one greens of the trees on the hills and the dark blue calm of the sea with the even darker blue of the shadows of the mountains. The islands nearby can be visited by boat, where all manner of speleological wonders are to be found. It is said that there are not many places on this earth where such a variety of natural colours and beauty is provided. Forests full of styrax trees embrace the sea in many parts of Southern

Anatolia. There is a lot of day tourism from Marmaris to these forests and bays. Right next to Marmaris is Datcha, a quiet, simple town, which juts out a considerable distance into the sea. It will certainly become a large tourist attraction in the future: at present, a holiday resort with accommodation for 2000 is under construction. Other towns, such as Festhiye and Köycegiz, as yet unspoiled, will also soon be opened up to tourist activities. Against the faraway snow-covered peaks of the Taurus mountains, some of the most beautiful fresh waters in the forms of streams, waterfalls etc. in all Turkey are to be found. Here lies the old city of Antalya. It is a beach city, with orange groves, pools and waterfalls and surrounded by pine trees. Although the summer season is quite long, the city is open to tourists all the year round. The palm trees give a different look to the overall picture of the modern buildings in the city, whereas the historical monuments, ruins and museums, including the fa-

mous Clock Tower, continue all the way along the coastal road to Alanya, a small town east of Antalya. History is still alive in these coastal areas. The caves of Heaven and Hell, Girls'Tower, the Bloody Madhouse, the Damlatas Cave and the Manargat waterfall are only a few of the colourful sites to be visited around these vacation spots. It is clear from the description of this blessed region that it will continue to attract an ever-increasing number of tourists. However, it should be remembered that this will go hand in hand with such problems as pollution of the sea and coastline, a greater liability of forest fires, overdevelopment of resorts etc. Thus every effort will be made to ensure that the natural beauty and perfect facilities remain unspoiled for visitors to Southern Anatolia, and that by carefully blending new developments and tourist facilities into the original historical setting, the charm of this area will be retained indefinitely for one and all.



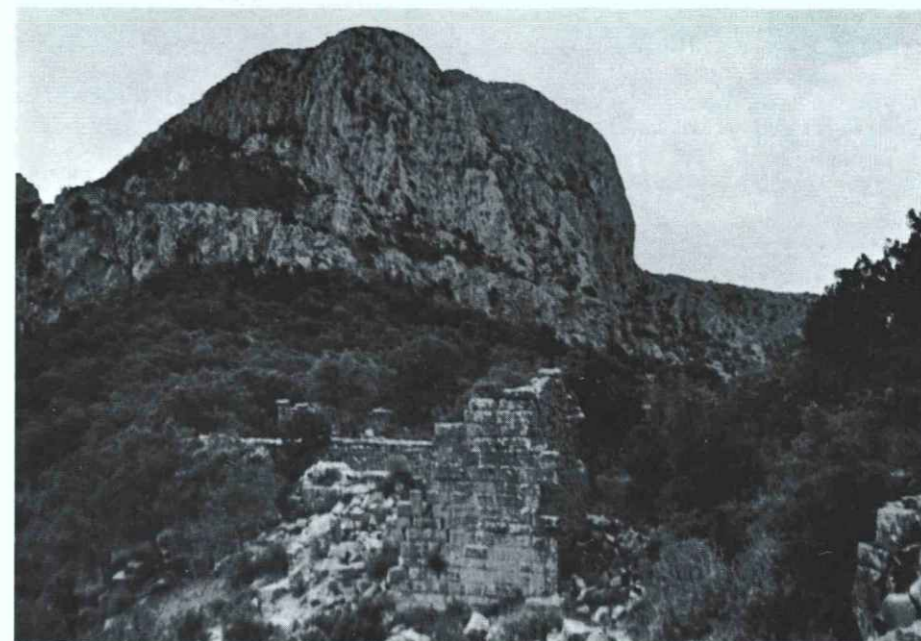
# NATIONAL PARKS IN TURKEY

**Zekai BAYER**  
 Director of National Parks  
 Department of the  
 Ministry of Forestry, Turkey

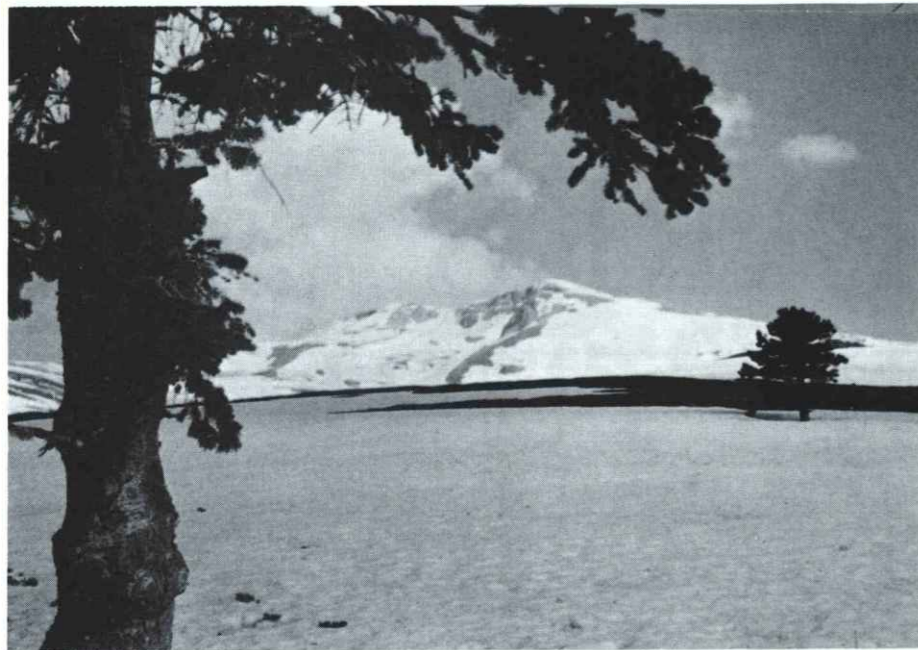
As has been the case for most parts of the world in the 20th century — the population explosion, technological advancements, the development of transportation and communication facilities and the limitations on government policy for the preservation of nature — have resulted in the deterioration of ecological systems and the destruction of natural and archaeological resources.

As transportation and communication services improved rapidly in Turkey, getting from place to place became progressively easier for everyone. However, the investments poured continuously into the development of the coastline did not have any order or system and coupled with rapid urbanisation, the growing demands of the public for recreational sites and those of commercial men for profit, invariably gave rise to conflicts. Problems of flood-control, and the need to preserve forests could also be added to the abovementioned factors which, all put together, created the movement for intensifying natural resource protection in Turkey. Stemming from the necessity to intensify natural resource protection came the enforcement of Forestry Law No. 6831, and the enactment of items 3, 23 and 25 in 1956 gave the Ministry of Forestry the authority, in the name of the Turkish Government, to designate the most suitable forest lands and unique areas subject to forestry regime as national parks. Protecting the coastline is obviously an important aspect of the conservation of ecological systems; but to Turkey, a country composed mostly of a peninsular, the problem is of paramount importance.

Surrounded by four seas (the Black Sea at the North, Marmara at the North-West, the Aegean at the West and the



*Already twelve important national parks in Turkey.*



Above — Uludag National Park where summer and winter tourism still leave a place for vultures and eagles, wolves and bears.

Below — Dilek Peninsula National Park.



Mediterranean at the South) and a coastline totalling approximately 9,000 km., Turkey has faced the problems of destruction of natural resources. Because of the misuse of nature for centuries, undesirable changes have occurred in its ecological system. As it is a country with remarkable landscape series and units — resulting from its various climatic conditions due to the

geographical locations — it was felt that the problem should be analysed in accordance with the concept of nature protection if a real solution were to be found. Besides the notable natural values, Turkey is also rich in her outstanding cultural heritage and resources. It is a land where various civilisations settled for many centuries and even today it

is possible to see and feel, through the outstanding historical and archaeological remains, the man-made environment they created.

In accordance with the above-mentioned forestry law and proceeding items, the National Park Service was established within the General Directorate of Forestry in 1964. The National Parks Department, set up for the purpose of preservation, conservation and certain other activities (for touristic, recreational, sportive and research activities) has brought areas of rare quality and beauty within the national park regime.

According to the definitions set by IUCN's International Commission on National Parks — twelve national parks were established in Turkey in nine years.

National Park	
— Olympus Seashore	69,620 ha.
— Munzir Valley	42,800 ha.
— Uludag	11,338 ha.
— Dilek Peninsula	10,700 ha.
— Karatepe	7,715 ha.
— Termessus	6,702 ha.
— Kovada Lake	6,534 ha.
— Spil Mountain	5,504 ha.
— Yedigöller	2,030 ha.
— Soguksu	1,025 ha.
— Camlik	264 ha.
— Manyas (bird lake)	052 ha.

Total area covered by N.P. 164,284 ha.

The areas reserved for national parks are roughly 0.9% of the total area of the country.

The dimensions of the national parks and the total surface area they cover result basically from the zoning systems applied, regarding the specific conditions of the countryside and major resources of the parks.

Touristic activity generates from the buffer-zone which is adjacent to the protection zone. Unfortunately, destruction of the ecological balance, historical and archaeological values due to touristic activities are inevitable and problems with direct impacts on natural beauty, health and economy are created. For re-establishment of the disturbed ecological system, the preservation of flora and fauna and in order to enable scientific research, the concept of the establishment and improvement of national parks has been accepted and favoured by the Turkish Government.



# RECREATION AND NATURE CONSERVATION IN THE KENNEMERDUINEN NATIONAL PARK

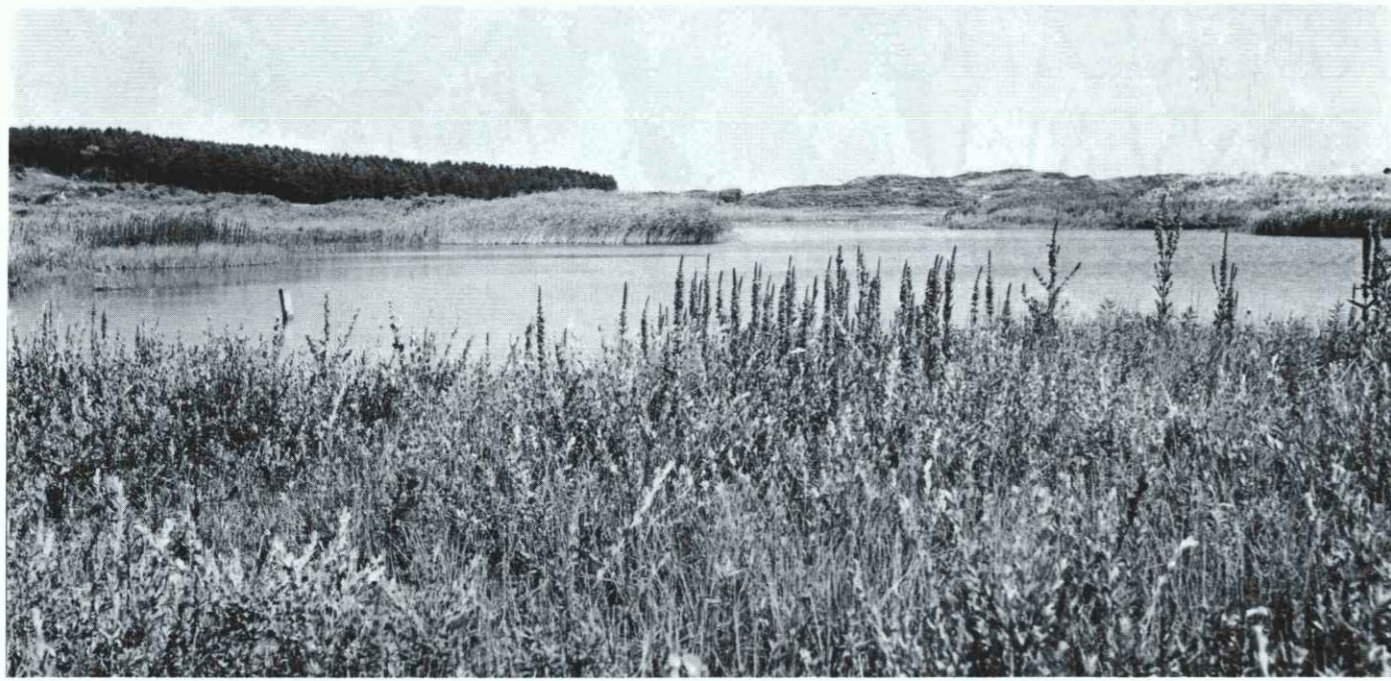
Dr. Ir. E. C. M. RODERKERK  
Director of the  
Kennemerduinen National Park  
Overveen, The Netherlands

On the North Sea coast due west of Amsterdam lies the Kennemerduinen National Park: 3,000 acres of dune-land with its own particular and fascinating flora and fauna. Within twenty miles of this national park live two million people and whenever the weather is good, many of them seek the sea for recreation. It is therefore not surprising that on a fine summer's day the park is often visited by as many as eighteen to twenty thousand people.

But despite the fact that this area has 700,000 visitors a year, it is possible both to offer them as much room and possibilities for leisure as they want and also to protect this vulnerable landscape with its flora and fauna from destruction. This is the result of a special method of protection based on a series of observation studies that are not yet completed. One of the results we found was that more than 90% of the people living in cities who visit this national park seldom do so specifically to look at the flora and fauna but more so because it provides an opportunity to be in the open air together with a lot of other visitors, to play, to sunbathe or simply to be lazy. Even those who just want to take a stroll often seem to avoid the very quiet places in the centre of the park. We never did any interviewing but established that most visitors do not know what type of scenery they prefer or what they will do there.



*"We are young — we don't know that dunes are vulnerable". This dune and certain others have been specially set aside for anyone, whether young or old, to scramble up and down.*



The parts of the park most frequented by visitors was ascertained by observation only. Each ticket sold at the entrances was numbered, as was each entrance, and a small army of assistants would then check these tickets at various spots throughout the park and note down where the visitors preferred to stay.

We thus found that the majority looked for a so-called "open" landscape i.e. a landscape with small groups of trees or shrubs and a lot of open space and partially bare sand. The presence of water (paddling pools) also proved to be of some importance. Such a landscape has a recreation capacity of about fifty persons per acre. The so-called "fringe effect" was also very obvious i.e. the tendency to prefer one type of landscape where it borders on another: a hedgerow, the edges of woods, beaches etc. Most visitors showed very little preference for dense woods or shrubs. This way of thinking means that it is possible to keep nearly all the visitors more or less concentrated in particular places by surrounding the leisure areas with a girdle of dense woods.

If the Kennemerduinen National Park had been given over to recreation without any special steps having been taken towards its protection, it would have been severely damaged within a few years. The sand is very fine grained and easily blown away, in addition to which the covering layer of plants and humus is often thin and vulnerable. It is thus easy to cause "wandering" dunes that do a lot of damage. In this part of Holland the dunes are the last green oases.

*"This lake is ours : the paddling pool is over there".*



Moreover their flora and fauna are typical and rare. However, although as already said visitors total about 700,000 annually and often 20,000 daily, the landscape, the flora and the fauna have remained practically undamaged. The secret lies in the adaptation of the landscape within the immediate vicinity of the entrances as closely as possible to the requirements of the visitors.

Many open spaces in woods and shrubs have been provided in order to create a lot of "fringes". Large paddling pools (about 18 acres of water each) have been made: these are sheltered against the wind which is why large numbers of visitors prefer to go to them rather than to the nearby beach of the North Sea, especially when the weather is not always altogether fine.

In areas which surround them (75-100 acres) all sorts of recreational activities are allowed (in the rest of the national park, leaving the roads or paths is not permitted, with the exception of a few special playgrounds). It is very important that the preferred scenery be found at a short distance

from the entrances. Driving motorcars, motorcycles or motorised bicycles through the national park is not allowed except on a short track just behind the first row of dunes. Visitors coming to the park in or on such vehicles not only avoid walking but also bring a lot of equipment with them, such as air mattresses, chairs and tents.

Carrying these is no great pleasure so they do not want to go very far. On the other hand, the "concentration area" must not be situated too close to the entrance in case people go beyond the boundary.

Parking places have been made, but not too large so that the amount of visitors who can park their cars does not exceed the capacity of the nearby playing ground.

The attraction of the North Sea beach has been enhanced by making it accessible: a passage has been dug through the dunes, at the end of which is a car park large enough to hold 1,250 motorcars, and a restaurant overlooking the sea has also been built. The effect of these measures is that on peak days

of 20,000 visitors, 95% of them gather in the vicinity of the entrances or at the beach of the North Sea and so they use only about 400 acres of the total 3,000 of the national park for their recreation.

Thanks to the measures mentioned above it is not necessary to have those awful (often typically Dutch) barbed-wire fences and signs saying "Verboden te ..." such as can be seen so much elsewhere in our country.

Thus the visitors are not annoyed; on the contrary they can find just what they are looking for (consciously or subconsciously) i.e. playgrounds near to the entrances or the possibility of going for long walks in the solitude of nature. People who are content do not make trouble and do not cause damage. If the only protection of the landscape, flora and fauna had in fact just consisted of barbed-wire and prohibitive notices, and if no opportunities to play had been specially provided it is almost certain that many of the visitors would have behaved in a way damaging to nature out of sheer annoyance and dissatisfaction.





"Please don't pick us : let others enjoy us as well".

In the Kennemerduinen we try as much as possible to allow some compensation for something that cannot be permitted (we don't use the word "forbidden" on purpose since it does not fit in with the policy of our national park).

For instance :

1. Within the park, visitors are not allowed, as a rule, to leave the roads and paths — they can do so on the 400 acres of playground.
2. We cannot have people climbing up and down slopes everywhere, but ten dune tops have been made, more or less easily accessible by paths covered with shells and steps leading to their summits. There are also a few slopes where climbing up and rolling down is allowed.
3. In the centre of the Kennemerduinen there is a lake specially created for the benefit of the birds. Bathing here cannot of course be allowed. Around the edge of this bird sanctuary are some signs showing a picture of two birds pointing to one of the paddling pools and saying "This lake is ours, the paddling pool is over there".

Naturally there are some activities that can never be allowed and for

which there are no alternatives such as the collecting of flowers and eggs. In these cases the only thing to do is to make it clear why they are forbidden. Prohibiting is a negative action and provokes irritation especially when one does not understand why something is forbidden.

In the Kennemerduinen there are several signs showing by means of pictures what kind of damage could be done ; for instance if someone climbs up the slopes of the dunes (sand is blown away) or does not keep to the roads and footpaths (danger for flowers and birds' nests). Signs with only words on them are not very effective as during the last decade people have become more used to looking at pictures than to reading words (television etc.).

Over the past few years the National Association of Sports encouraged a programme of physical exercises for everyone.

The ensuing result was that at weekends and holidays more and more people were to be found, for example, trotting along the paths and climbing up the trees in the national park. In doing so they disturbed the usual tranquility found outside the special areas dedicated to mass recreation.

The solution was : the construction, very near to the entrances, of special so-called "trimcourses". Such a course is about one mile long and has sixteen spots where different exercises on roughly built constructions may be done. When energetic visitors, especially the younger ones, have done such a course properly, they have used so much energy that they have hardly any left for mischief! As a result they will usually stay at the recreation areas near to the entrances. These courses are now used very frequently. However, they did not seem to satisfy completely the true athletes. These people wanted just to be able to run for several miles or so and not do any other sort of exercise. So they went on running through the quiet areas. Therefore we constructed a special course for these people. Its length is about 2 1/2 miles, it has no "spots", but it leads through very rough terrain.

Result : no more trouble caused by this category either.

Another way of preventing damage was found in the installation of a visitors' centre. Its main purpose is to raise interest in nature in those visitors who are hardly, if at all, interested in flora and fauna. There are no signs carrying the words "museum" or "visitors' centre" leading to it, since these would frighten off exactly the species of visitors we want to go in. To lure them inside, a big hare, pointing in the direction of the visitors' centre, stands on the nearby car park, with the inscription : "Do have a look over there". From the spot where the hare is placed the building is invisible. The building itself has no window panes, so you have to go in if you want to know what's inside.

Inside there are several big "dioramas" showing the most common examples of flora and fauna that can be seen outside. There is nothing written on the walls. Instead the visitors get printed guides and may also have the use of a small tape recorder that gives verbal information. By means of cleverly made devices they can learn the names of the most common species of birds and at the same time hear their specific songs.

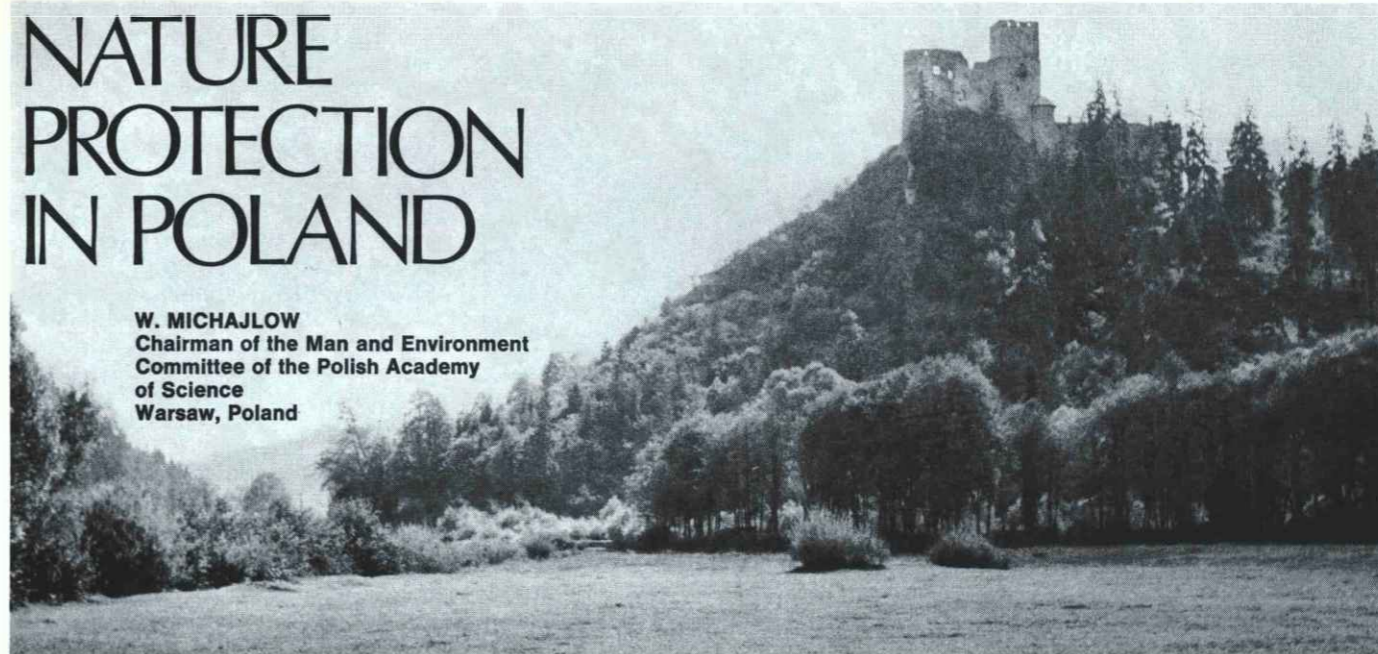
In this way they learn how to get more pleasure out of nature by observing, by listening to and being able to recognise the birds.

We are very much convinced that in this way we can make people aware that nature is worth looking at and worth conserving.



# NATURE PROTECTION IN POLAND

W. MICHAJLOW  
Chairman of the Man and Environment  
Committee of the Polish Academy  
of Science  
Warsaw, Poland



Poland can boast an outstanding record where nature protection is concerned.

As long ago as the late 19th and early 20th centuries, Polish naturalists were drawing attention to the problem of safeguarding the natural environment. This was the period of eminent conservationists like Marian Raciborski (1863-1940), through whose efforts the idea of nature conservation was brought home to the people of Poland. Their endeavours to preserve and conserve the country's natural heritage also took practical form.

It was thanks to their work that nature conservation questions became a subject of national concern, and the same task was subsequently taken up by two other leading scientists, Wladislaw Szafer and Walery Goetel. The year 1919 saw the foundation of the National Council for Nature Protection — the first governmental body of the kind anywhere in the world.

Needless to say, the creation of this council was a boost to the nature conservation movement, which thenceforth assumed national proportions and bore eloquent witness to the Nation's, and the government's, interest in the problem.

Nature protection activities expanded greatly in the period 1918-1939. Names connected with this period include Michal Siedlecki (1873-1940), Adam Wodziczko (1887-1948) and the indefatigable conservationist Wladislaw Szafer (1886-1970), whose main area of concern was the protection of inanimate nature, whereas Walery Goetel

(1892-1972) focussed his attention — in accordance with his training and inclinations — on inanimate nature.

It was at this time that the basic principles and methods of nature conservation began to take shape. The conservationists believed — quite rightly — that the most pressing task was to compile an accurate inventory of the treasures of the Polish natural heritage and a basic register of noteworthy features, both animate and inanimate. In addition to natural features which — by reason of their very character — were isolated specimens, arrangements needed to be made for the protection of plant and animal species. This inventory was used to decide which plant and animal species were in danger. They were then listed and given legal protection. There are at present 38 fully protected and 15 partly protected plant species in Poland ; 128 animal species belonging to a variety of families are protected.

A number of nature reserves were created between the two wars. Poland now has 550 of these, 118 of them "integrated" reserves in which human intervention is almost completely eliminated. The country's nature reserves cover an area of 52,000 hectares, the "integrated" reserves accounting for 5,950 hectares.

The third way in which the natural environment is protected is through the establishment of national parks. In these parks, as distinct from nature reserves, human intervention does not cease entirely ; the aim however, is to encourage and assist the conservation

of the environment in its natural state, and very stringent controls are placed on the exploitation of raw materials (forestry for instance).

Poland has 11 national parks extending over 96 478 hectares. Within these parks are closely controlled areas where agriculture and other economic activities are severely restricted ; these "strictly controlled" areas total 20,205 hectares. One such park is the National Park of Bialowieza, now the natural habitat of the bison (*Bison bonasus*) which lives in complete freedom there. Other national parks are currently being established.

After the Second World War, the former nature protection legislation dating from 1934, which was limited in scope, was replaced (in April 1949) by a new Act, apparently very much ahead of its time, which laid emphasis not merely on nature conservation but also on the management of natural resources and the active involvement of naturalists — through consultation procedures — in the economic processes which resulted in the exhaustion of those resources.

In common with so many other industrial countries, Poland has become familiar in recent decades with the damaging effects of water, air and soil pollution and of the accumulation of industrial waste and the refuse of the consumer society.

The well-known appeal made in 1969 by U Thant, Secretary General of the United Nations, and subsequent international efforts to safeguard the environment, have fallen on fruitful ground



*Poland — symbol of a great past and of modern conservation.*



in Poland. Polish experts have played an active part in drawing up UNESCO's Man and Biosphere programme, and have been involved in the related research work.

In addition, organisations and government departments have undertaken projects on a more ambitious scale with the aim of safeguarding the environment and using natural resources in a rational manner.

A Ministry of Environmental Management and Protection was created in 1972 to co-ordinate work on these problems, through the intermediary of the appropriate scientific institutes.

A group of experts appointed by the Government to prepare a draft programme for the protection of the environment in Poland until 1990 is expected to report shortly. The aim of this programme is to promote regional and environmental planning in conjunction with the social and economic development programme. Among other things, it is planned to harmonise and codify the various items of legislation relating to nature conservation and the problems arising from the different elements in the biosphere (water, air, vegetation and so on).

Every effort is being made to build our work in this field on a scientific foundation. Practical and applicational research, and fundamental and theoretical studies are carried out by the Polish Academy of Science's Institute for Environmental Protection, set up in 1970 at the Polytechnic School in Warsaw. Pure research is carried out by the Nature Protection Institute of the Polish Academy of Science in Krakow. A scientific committee on Man and Environment, currently with some 30 members representing a range of specialised scientific disciplines, was instituted in 1970 and attached to the Presidium of the Polish Academy of Science, its task being to co-ordinate major research projects in Poland, whether already under way or planned for the future. It constitutes both the Polish national committee for the Man and Biosphere programme and the national SCOPE-ICSU committee, and has eight subcommittees reporting to it on various aspects.

Besides problems of the natural environment and technical solutions to them, agricultural, economic and social problems are dealt with by special committees and boards. The Man and Environment Committee prepared the papers delivered in December 1971 to the Assembly of the Polish Academy of Science, which was entirely devoted to questions of environmental protection. The discussion revealed the enormous interest taken in these matters by representatives of a wide range of



*In spring the mountains resound with the joyful sounds of horns as the sturdy shepherds drive their flocks up to the pastures; however, these domestic animals can sometimes represent serious competition for the natural fauna of these high regions.*

disciplines. This interest was even more in evidence at the 2nd Polish Science Congress in Warsaw in June 1973, attended by more than 200 delegates from different scientific backgrounds. Interesting discussions took place, in the various sections and working parties at the Congress, on the work entitled "the tasks of science in the protection and shaping of the human environment", published by the Polish Academy of Science Committee. A new edition of this work, containing the different findings, is in preparation.

I should like to conclude this brief survey with a practical example of nature conservation. In August 1973, at a meeting convened during the conference of experts at Aspen (Colorado) by the Director of UNEP-UN Dr. Strong, the well-known expert on environmental problems Professor René Dubos quoted the example of the Culture and Recreation Park in the industrial part of Upper Silesia. This park, which was created in 1950 and covers about 600 hectares of land that had been entirely spoilt by industrial

plant in the vicinity, has succeeded beyond all expectations. It is partly wooded; the young trees thrive, and the birds sing. Natural plancton abounds in the lakes, and the meadows are full of flowers. The existence of this artificial ecosystem, man-made to meet the needs of contemporary people living in large industrial conurbations, is an excellent example of what can be done at the present stage scientific development to safeguard nature and the human environment.





Are the colours of this world disappearing? About 20 000 species of all flowering plants are in danger of extinction



The greatest dangers include urbanisation, industrial development, the mechanisation of agriculture, pollution, the use of pesticides, etc. Furthermore the increase in leisure hours, mobility and communication has made many more of the rarer species and biotypes accessible to enthusiastic collectors and of course tourists. In Europe the most vulnerable areas are the Iberian Peninsula, the Balkans, the Mediterranean Islands and the Alps. The first two represent the richest floras in the whole of Europe: about 200-300 species in these areas alone are in danger.



# EUROPE'S PROBLEMATIC ENERGY OUTLOOK AND THE PROTECTION OF THE ENVIRONMENT

## INTRODUCTION

*The Editors of Nature in Focus believe that many of the apparent changes in our present day's natural environment are a direct result of certain essential aspects of modern society. They consider the most significant of these aspects to be the recent surging developments in energy production, transport systems, the food industry and industrialisation in general. Because these activities are among the most important in the economic systems of the western world, they also naturally affect each and every individual citizen to a greater or lesser extent.*

*Beginning with this issue, Nature in Focus will be printing a series of articles in 1974 along these themes, for which representatives of important producer companies and consumer groups from all over Europe have been asked to give their views concerning both their rights and responsibilities and how they envisage these activities having no negative effects on the natural environment.*

**P. A. F. DE LA CALLE**  
Environmental Conservation Adviser  
Royal Dutch Shell Group  
Rotterdam, The Netherlands

### These "Days of Crisis"

The attempt to write an article on energy, even if only in relation to the environment, when the world is faced with the double crisis of reduction of energy availability and an enormous increase in the price of crude oils, presents quite a challenge. Well into the mid-1980's, world energy requirements are largely dependent upon the crude oil availability and supply. At this moment Western Europe alone depends on supplies from the Arab world for about 45% of their total energy consumption, and this extremely high dependence, coupled with sky-high prices, will, without doubt, have such a far-reaching and deep effect on energy availability that it is still unrealistic to attempt to estimate the practical consequences thereof on the continued development of Europe.

It does appear to me that if ever Europe's energy situation called for determined action, for wide-spread national and international measures taken in concert, that time is now. In doing so we will have to make a distinction between the long-term problem and the present difficulty. This, in my opinion, will also need close co-operation between governments of producing, consuming and developing countries as well as between those countries and the industry.

### Europe's Demand

Today Europe consumes nearly twice as much energy as it did in 1960. With the abundant availability which was expected until the present crisis, the demand for energy would have probably doubled again by the middle of the next decade.

Western Europe, the United States and Japan can import, today, a total of 25 million barrels of oil a day. By the middle of the next decade, imports could have risen to 50 million barrels a day. Most of these additional oil imports will have to come from the Middle East. For Western Europe particularly it is out of the question — for the foreseeable future — to achieve secure supplies from indigenous sources to cover total energy demand. Europe will be relying on imports of oil, while it works on alternatives for the longer term; solving the problems of this inter-phase is the most pressing task for oil importing Europe. The world is emerging from a long period of cheap and abundant energy more rapidly than was thought likely. This is the reason why, even more than before, industry is urging consumers to consider economics, not only for the duration of this crisis, but also for the longer-term.

### The Environment

It will be clear that we need a thoroughly realistic approach to the whole question of conservation of the environment, particularly in regard to measures which result in using more energy. The morose in the present days of crisis. This will require from all concerned a better understanding of all the aspects of the problem, and, particularly, the goodwill to search for solutions which take the overall interests of the community into account, rather than only limited and often parochial aspects. Already in recent years great progress was achieved and among other main

industries, the petroleum industry for their part, often in concentration with the authorities, have done a great deal to limit and reduce the impact of their operations on the environment:

- there has been a gradual reduction in atmospheric emissions through the emergence of natural gas as a fuel, the increasing use of low sulphur (mainly African) crude oils and the removal of sulphur from oil products or from effluent combustion gases,
- there has been a substantial reduction, by up to a factor of ten in newly designed and built plants, of objectionable liquid effluents,
- and great efforts are continuously being made to control and further reduce pollution of the seas due to marine transport pending the approval of international conventions governing such effluents, conventions which are fully endorsed by the industry.

These improvements, among many others, have been costly, however, they comprise only a first step, and much more remains to be done. In the case of SHELL alone in 1972 more than STG 65 million were spent on means of reducing the impact of their operations on the environment. Ten per cent or more of the total capital expenditure on a modern refinery can be involved in air and water pollution abatement, also calling for supplementary consumption of energy in both the building and operating phases. The "polluter pays" principle is also quite acceptable to industry if applied without discrimination, and taken as meaning that environmental conservation expenditures are one more element



*Man will have to face up to a wiser management of the non-renewable natural resources as the need for energy increases.*

in the calculation of operational costs, as generally understood by national and international authorities.

The concept of "zero pollution" may appear to many as the obvious solution. On deeper examination this is indefensible because human activities pollute almost by definition, any activity consumes energy, and as no known energy is one hundred per cent efficient, its use causes waste, the most universal being heat, which is continuously dispersed in, and absorbed by the environment.

However, costs and energy consumption arguments obviously come second to general health, welfare and other vital environmental considerations, and industry welcomes the determination of environmental standards as long as they are based on sound

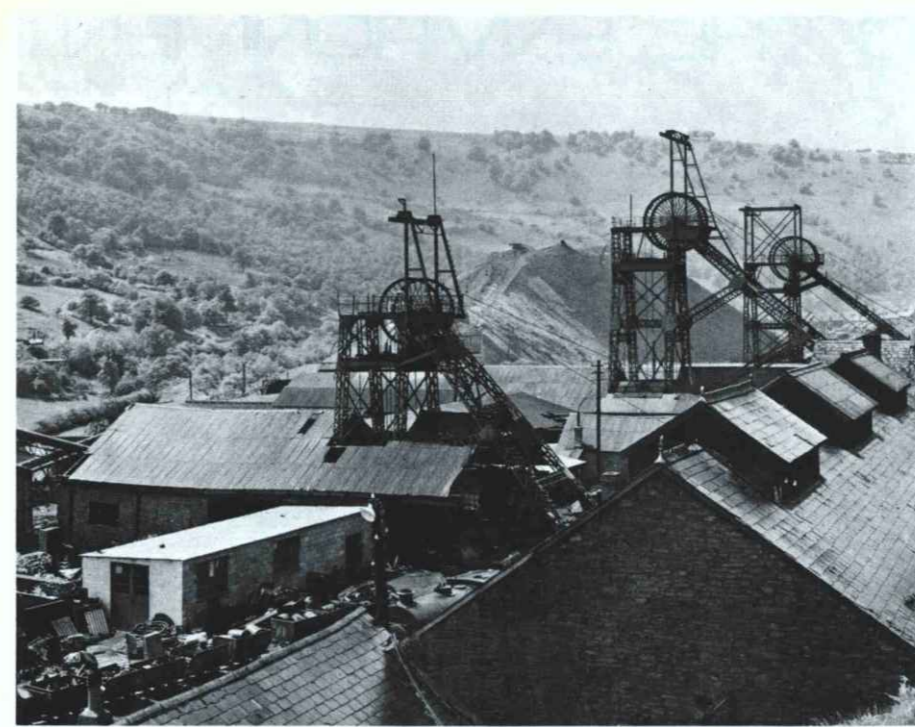
scientific research, take into account the regenerative capabilities of the environment and do not cause unfair trade competition. What is in fact essential, is for authorities to determine the balance between cost and benefit to society, both financial and in energy requirements, and to decide on priorities for the overall advantage of the community.

#### **Future sources of energy and the environment**

The share of energy in the cost of any activity will be increased substantially and, as a first and long-lasting effort, every member of the community, whether individual citizen or industry, must strive towards economising energy by plain thrift, more efficient pro-

cesses, new technologies and improved operational methods. As a consequence, these improvements will probably result in a substantial reduction of the amount of waste products and therefore of the contamination of the environment. Further similar considerations may lead to profitable recycling operations or new uses for waste products, thus taking them out of the environment.

Secondly, Europe's dependence on imported oil must be reduced. So far, the abundance of relatively cheap imported crude oils and their assumed availability into the 21st century has not encouraged any accelerated effort into the development of substitutes. The present crisis having reversed oil's price advantage and shown the uncertainty in the continuity of supp-



lies, the following steps should be taken :

- maximum encouragement should be given to production of indigenous oil and gas. These in Europe are, so far, mainly being found offshore, in difficult conditions and at high cost, but on the whole they should have practically no adverse impact on the environment ;
- the use of nuclear energy will have to be developed at a much faster pace. The resistance to its use, on environmental and safety arguments, is, I believe, greatly exaggerated ; extensive and near fool-proof safety measures are being imple-

mented and, from the environmental point of view, the effluents are limited to heat and to a relatively very small volume of radio-active wastes and the potential energy which they still hold. Present plans are for at least a quarter of Europe's electricity to be generated through nuclear plants by the mid-1980's ;

- the use of coal will be extended, even though it may have to be imported into Europe. Strip-mining methods will be used, and great care will have to be taken, once mining operations are completed, to return the area to a useful purpose, either

agricultural, sylvan or recreational. Coal, and this applies as well to bituminous shales and tarsands, can be a substantial source of synthetic gas and oil. Coal as a fuel was being displaced during the last decade by the cleaner, more practical and cheaper oil products. But, with the reversal of the price element and the application to coal of the gasification and desulphurisation techniques of the oil industry, coal, for which very great reserves still exist worldwide, will again be used to advantage but without the more adverse effect on the environment than other fuels which it used to have ;

- for the much longer term, not really under consideration here, research will have to be kept up towards the application of fusion, solar and other still undetected sources of energy.

The essential acceleration of the development of those potential substitute sources of energy will be very costly, and the main difficulty in the next decade or two will be to find or generate the funds necessary for doing so, which will have to be added to these now required unexpectedly to pay, simultaneously, for the enormous price increase of the still vital imported crude oils. If the effect of these financial burdens on Europe's economical health is difficult to forecast at the present stage, it can be said that the effect on the environment of using these substitute sources of energy, with the necessary improved techniques, will probably be an added benefit to that already obtained through thrift, general economy of energy and great reductions of waste, in all our human activities, and will help the communities in their efforts towards an ever improving environment.



# ENERGY AND THE ENVIRONMENT

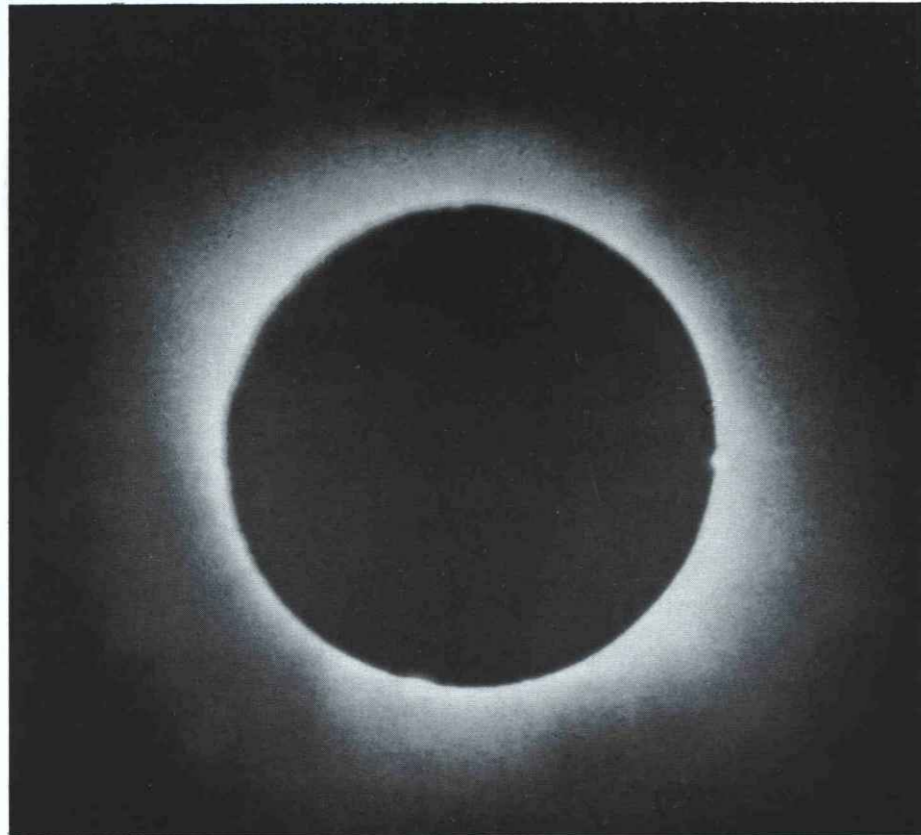
## A CONFLICT OF INTERESTS FOR THE CONSUMER ?

Dr. Tilman HÖHFELD  
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Environment policy is largely a matter of consumer policy — policy for the protection of the consumer, coupled with the aim of alerting the consumer to the complex interplay of man and nature. The consumer is both aggressor and victim. He is the direct and indirect aggressor in that he himself produces waste water, waste heat, refuse and fumes, and also occasions the production of such waste elsewhere. At the same time he himself is concerned, annoyed and endangered. None are better aware of this state of affairs than those who live in the immediate vicinity of a refinery, power station or busy trunk road.

For these reasons consumer organisations have for several years taken up the protection of the environment as a major part of their programmes. Their work in this field falls into two categories. Firstly, they defend the consumer's interest in the environment before the bodies responsible for legislation and administration, and before public and private economic organisations. Secondly, they endeavour to inform consumers about the consequences of consumption, and to point out to consumers the possibilities of greater freedom of choice, i.e. the freedom to exercise their own responsibility in consumer choices.

Is protection of the environment incompatible with highly developed industrial society? The present-day consumer is faced with a major dilemma. He expects an adequate supply of energy at all times, and at the same time he fights against the installation of an energy-producing plant near his home. The standard of living we have achieved today would be inconceivable without the infrastructure of energy production; nor will we be able to alter this basic prerequisite for our economic well-being in the future. The only meaningful question we can ask is how much electricity, heat or petrol we really need.



This does not mean we should jump to the conclusion that the consumer has it in his power to reverse current trends on his own merely by controlling his demand, or by limiting his consumption by more sparing use of energy — on his car, for instance. It is true that widespread use of private cars has done considerable damage to the human environment. This is borne out by a Committee of Environment Experts convened by the General Federal Minister of the Interior, which started work in the summer of 1972, and whose first achievement was a paper on the private car and the environment. The Committee of Experts

showed (as was indeed already known) that the car was one of the main sources of damage to the environment, and that under certain circumstances it might ultimately do the community more harm than good. But — and this is crucial from the consumer's point of view — "in the Committee's opinion wholesale replacement of private cars by other means of transport is out of the question in the foreseeable future; for many purposes the private car remains the most suitable means of transport, in both economic and technical terms, and it has had such a far-reaching influence on people's living patterns and behaviour that a sudden



change might produce unforeseeable consequences". The Committee's recommendations are not addressed primarily to the consumer but to the politician and the technologist, for they state that the aim of environment policy must be "to fit the whole transport system to the needs of the environment, in order to ease off the demand for cars by means of long-term planning of transport supply, and to reduce the harmful effects of the car on the environment by means of direct requirements". In the Experts' opinion, it is only if other means of transport offer a practicable alternative that the use of private cars should be restricted or prohibited, if the undesirable effects they produce exceed certain limits. The Committee's recommendations thus bear out the weak position of the individual consumer, and underwrite the consumer organisations that have for years been demanding tighter regulations for the protection of the environment in the interests of health. These efforts, including the efforts of individuals or

popular initiatives, have not been entirely without effect. For instance, the adoption of the Federal Immission Protection Act (Bundesimmissionsschutzgesetz) this year marks an important step forward, if only because the Act fairly and squarely establishes the principle of the polluter's liability, and, in weighing up economic private interest and protection of the community, comes down firmly in favour of the community. The Act is undoubtedly a step forward, but much remains to be done. For instance, the multiplicity of spheres of responsibility creates confusion in other fields, such as water pollution, or regional planning factors crucial in the location of power stations. And in the case of thermal pollution of the Rhine it is clear that the problem goes beyond the confines of the national authority.

The conflict between energy and the environment has taken on a different hue in recent months as a result of the oil shortage. It has suddenly become apparent that in the course of the extraction, transport and consumption,

only about half the original energy is actually utilised, and that some of the energy from oil and natural gas could be used more efficiently if not so much was used for the production of electricity. The awareness that available resources must in future be utilised more rationally than in the past certainly holds out an unusual opportunity for marrying technical energy requirements with the needs of the environment. This awareness has come late in the day, and is in danger of being crushed yet again by the advocates of cheap energy production. But whatever happens we should not be induced to leave protection of the environment in abeyance in the face of the energy crisis. This would definitely not be in the interests of the consumer.



# ...NEWS...NEWS...NEWS...NEWS...NEWS... **FROM STRASBOURG**

## **CONSULTATIVE ASSEMBLY Environment debate**

### **Results of the second European Conference of Ministers responsible for regional planning**

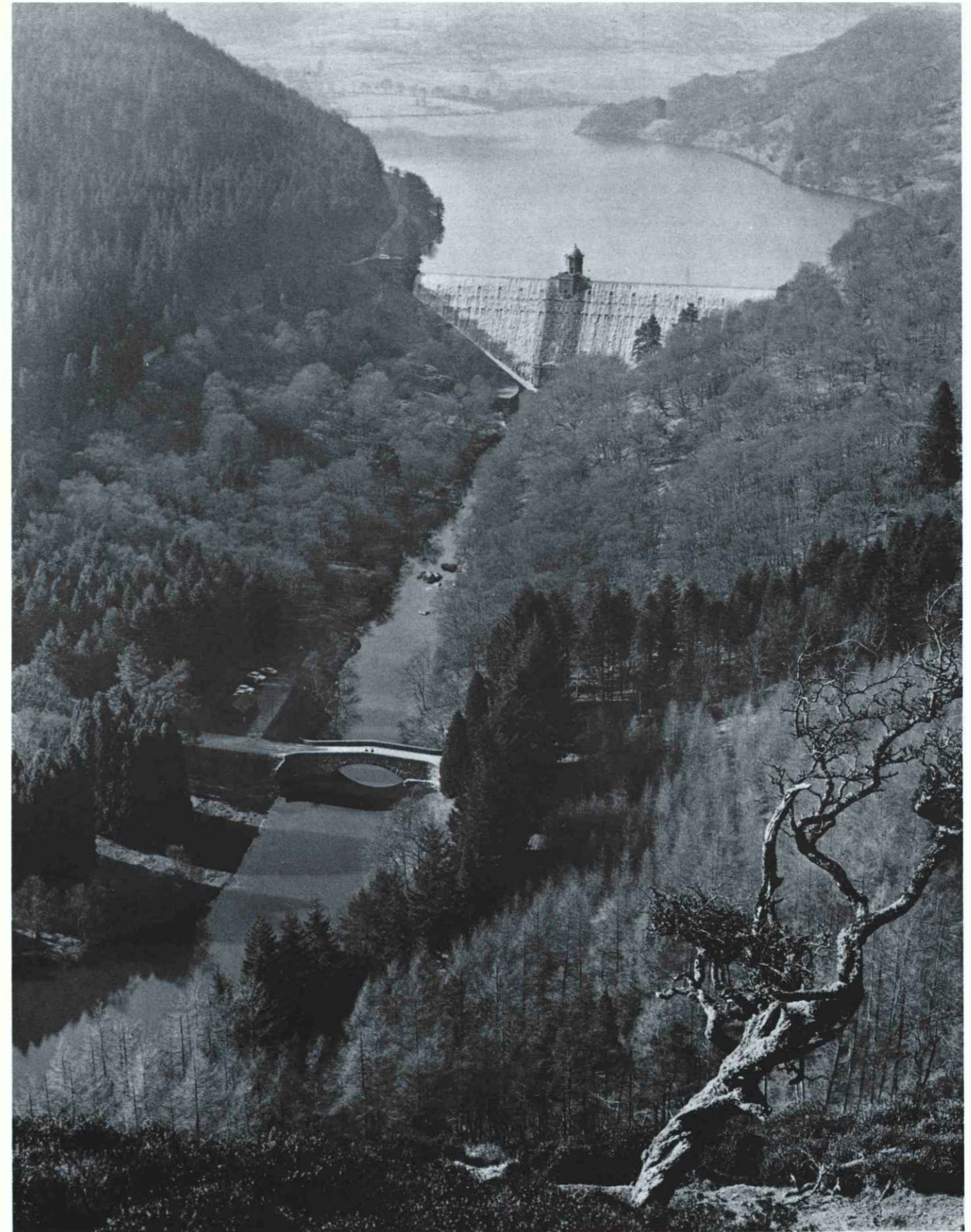
This was one of the subjects debated during the 21st session of the Consultative Assembly of the Council of Europe which took place at Strasbourg from 21 to 25 January 1974. (Full details of this Conference, which was held in September 1973, can be found in "Nature in Focus" No. 17, page 30). Following a report submitted by the Committee on Regional Planning and Local Authorities, the Assembly adopted a Resolution approving the subjects treated at the Conference and resulting future intentions, such as the consideration of the problem of urbanisation in Europe; and a Recommendation in which the Committee of Ministers is asked in particular to give the instructions necessary to draw up legal instruments facilitating transfrontier co-operation in the regional planning sector and to invite the governments to review their national administrative structures in the light of the need for close co-ordination of regional planning and environmental conservation measures on the basis of the action already taken by several member states.

### **European symposium on water protection**

The fact that water pollution is no longer a national problem has now become self evident. The problems and conflicts arising from the use of important fresh water supplies by several different states is only too well illustrated by the present quality of the Rhine. The need for co-ordinated action in Europe to protect its international fresh waters against pollution is especially urgent. The Consultative Assembly has long been aware of this problem and for this reason adopted a Resolution (with two amendments) proposed by the Committee on Regional Planning and Local Authorities, to organise an European Symposium on the protection of fresh waters in Autumn this year, in close conjunction with the European Federation for the Protection of Waters. One of the prime purposes of the symposium will be to consider the implications for European environmental policy of the new European Convention on the Protection of International Fresh Waters, which owes its origin to the Consultative Assembly. Other items on the agenda include the problems of European co-operation and the various aspects of regional and local transfrontier co-operation in water protection and new ways of producing and conserving fresh water. The Committee on Regional Planning and Local Authorities will organise the symposium at which the Legal Affairs Committee, the Committee on Science and Technology and the Committee on Agriculture will also be invited to participate.

### **European water campaign**

As a complement to the new European Water Convention and the Symposium, the European Information Centre for Nature Conservation will be organising a campaign on the need to protect fresh water along the same lines as the Soil Campaign in 1973. Further details of this campaign, together with the Convention and Symposium will be given in a later edition of "Nature in Focus". Finally, the Consultative Assembly at its first meeting in January 1975 will be discussing the full significance of the Convention, taking into account new developments resulting from its signature, the symposium and the campaign.



## The sea — no longer a horn of plenty ?

It is generally recognised that fish resources provide an important contribution to world food supplies, in particular in terms of animal protein. However, whereas formerly there was a widespread belief that maritime fish resources were practically inexhaustible, there is now an increasing recognition of the need to avoid over-fishing, with a view to maintaining stocks at a level capable of according an optimum sustainable yield.

The North Sea and North Atlantic are particularly subject to intensive fishing and the problems of over-fishing and means of preserving fish stocks in this area were the subject of a Recommendation adopted by the Consultative

Assembly on the basis of a report submitted by the Committee of Agriculture. During the discussion, the two most important aspects of solutions to these problems were especially emphasised by the Assembly, namely : the political aspect for which reason the Committee of Ministers is recommended to ask the governments of member states to sign or ratify, if they have not already done so, the existing international Conventions concerning fishing problems, notably those in the North Atlantic ; and secondly the scientific aspect, which implies a willingness from member states to stimulate scientific research and maintain studied undertaken in this domain.

Finally the Recommendation tasks that, under the auspices of the Council of Europe, an international political conference should be convened to discuss in greater depth the problems raised by the Recommendation.



*The young-old Mediterranean is suffering from the effects of modern society. Factors such as erosion, pollution, tourism etc have affected its vulnerable coastlines to such extent that the problem of their protection is in fact one of the main themes of the second international course on applied ecology to be held in spring at La Massiliena (near Piombino), under the auspices of the Council of Europe and at the invitation of the Italian Government. Protection of the soil, the vegetation and certain natural environments specific to the Mediterranean area (such as the Maquis) are among the other themes of this course.*

# NOTES

In the spirit of the "Ramsar Convention" on the conservation of wetlands of international importance, adopted in Iran in early 1971, the Irish Minister of Lands officially inaugurated the Wexford Wildfowl Reserve on 15 February this year. Thus yet another link in the ever-increasing network of wetlands for palearctic waterfowl has been safely conserved for the future. This exemplary step on behalf of the Irish Government not only signifies a national triumph — the beginning of a new era of modern conservation concepts in Ireland — it also represents an initiative in international co-operation by setting the pace for a speedy and urgent follow-up elsewhere in this domain.

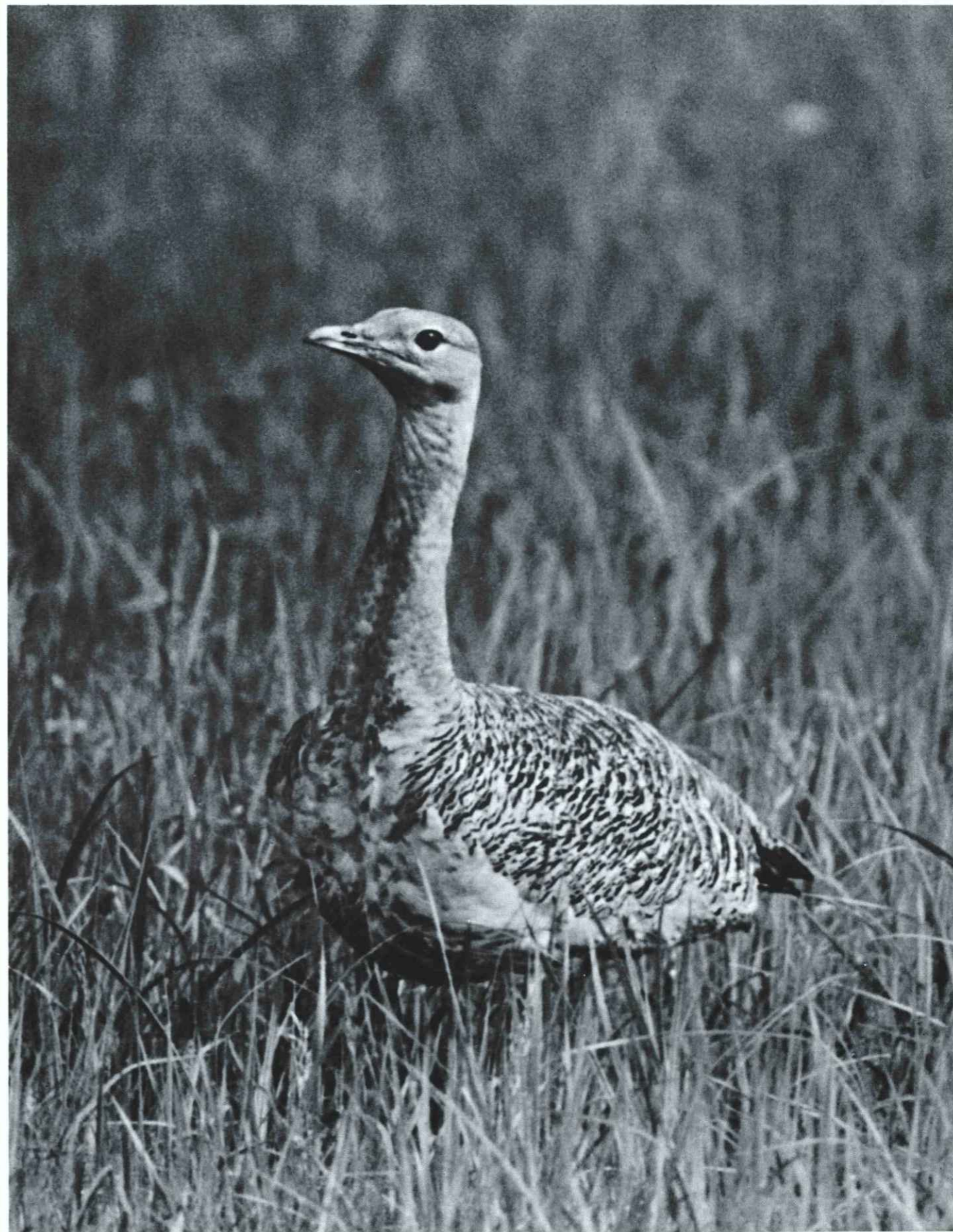
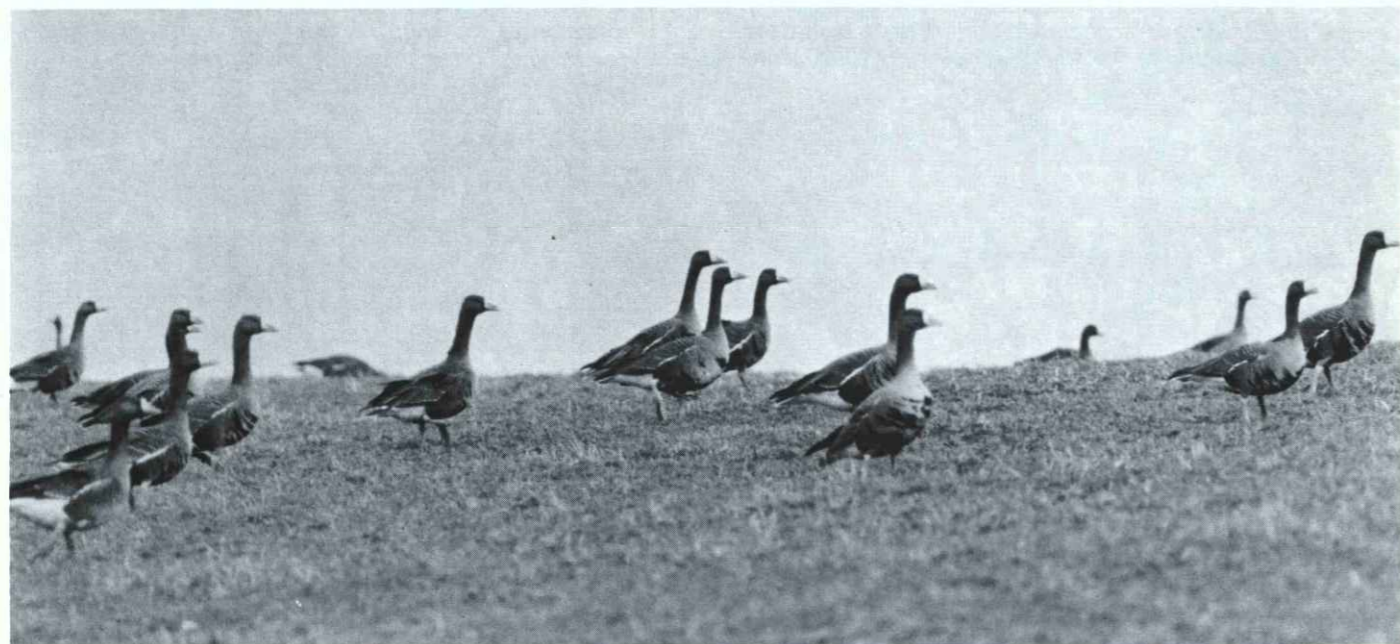
The Wexford Wildfowl Reserve lies some 90 miles South of Dublin on the North side of Wexford harbour (on the North Slobs), where 1000 ha. of land were reclaimed from the sea in the mid-1800s. The 160 ha. of the reserve proper are best known

as the wintering grounds for some 5000-6000 Greenland White-fronted Geese (*Anser albifrons flavirostris*), which represent more than half the world population of this sub-species; at the same time it provides food and shelter for many other species of wildfowl. All three swan species occur here, while the Barnacle Goose (*Branta leucopsis*) has been visiting the Slobs since 1920, with the Canada Goose (*B. canadensis*), Brent Goose (*B. bernicla*) and the Pink Footed Goose (*Anser brachyrhynchus*) also as regular visitors. Twenty-three different species of ducks have been recorded, and thirty-five species of waders.



*Elusive representative of the Central European avifauna — the Great Bustard (Otis tarda), threatened with extinction by the disappearance of its habitat together with the use of pesticides.*

*As a result of studies in Slovakia (Czechoslovakia) last October, a special working group recommended to the governments concerned that special attention be paid to this increasingly rare bird for whom urgent and stringent measures are needed to ensure its survival.*



# ZUSAMMENFASSUNGEN

## DIE TÜRKEI UND DER FREMDENVERKEHR — S. 3

Hasan Asmaz, Vorsitzender des türkischen Naturschutzbundes

Die Türkei bietet viele Anziehungspunkte für einheimische und ausländische Touristen.

Besonders beliebt ist die südanatolische Küstengegend, wo mildes Klima, Sonne, Sandstrände und landschaftliche Schönheit in vollendeter Weise zusammenwirken, und wo der Tourist sowohl allen modernen Komfort als auch antike Baudenkmäler und Stätten von geschichtlicher Bedeutung vorfindet. Typische Orte sind unter anderem Bodrum, Marmaris und Datcha, inmitten von Kiefernwäldern an stillen Buchten gelegen. Vor dem Hintergrund der fernen schneebedeckten Gipfel des Taurus-Gebirges trifft man einige der schönsten frischen Gewässer der ganzen Türkei. Da der Touristenzustrom in dieser herrlichen Gegend mit Sicherheit anhalten wird, müssen jedoch Anstrengungen unternommen werden um sicherzustellen, dass die Wälder und Naturschönheiten dort im Interesse künftiger Besucher vor Umweltverschmutzung, Raubbau, Fehlplanungen und dergleichen verschont bleiben.

## NATIONALPARKE IN DER TÜRKEI — S. 5

Zekai Bayer, Leiter der Abteilung Nationalparke im türkischen Forstministerium

Jahrhundertelanger Raubbau und die Auswirkungen der modernen Technik haben den Schutz der natürlichen Hilfsquellen zu einer Priorität ersten Ranges in der Türkei werden lassen. Besonders die insgesamt 9000 km umfassende türkische Küste sowie die Wälder waren von dieser Entwicklung betroffen. Der erste Schritt in Richtung auf einen besseren Schutz des Waldes war die Verabschiedung des Forstgesetzes (Gesetz Nr. 6831) im Jahre 1956, dessen Paragraphen 3, 23 und 25 das Forstministerium ermächtigen, besonders geeignete Waldflächen und der Forstverwaltung unterstehende sonstige Gebiete von landschaftlicher Schönheit zu Nationalparken zu erklären. Zwölf solcher Parke sind seither entstanden, und die Verwaltung bemüht sich in jeder Weise, das Gleichgewicht im Haushalt der Natur wiederherzustellen, Tier- und Pflanzenwelt zu erhalten und die Erforschung der damit zusammenhängenden Probleme zu fördern.

## ERHOLUNG UND NATURSCHUTZ IM KENNEMERDUINEN-NATIONALPARK IN DEN NIEDERLANDEN — S. 7

Dr. E. C. M. Roderkerk

An der niederländischen Nordseeküste liegt der Kennemerduinen-Nationalpark mit an die 3000 Morgen Dünenland und interessanter Tier- und Pflanzenwelt.

Obwohl diese Art Landschaft leicht verwundbar ist, besteht doch die Möglichkeit, jährlich etwa 700 000 Besucher zu bewältigen, ohne dass dadurch irgendeine nennenswerte Beeinträchtigung entstünde.

Dies ist das Ergebnis der Bereitstellung sogenannter Konzentrierungsflächen nahe den Eingängen, in denen die meisten Besucher die von ihnen bevorzugte Landschaftsart vorfinden. Darüber hinaus werden Besucher in natürlicher und freundlicher Form auf das in der Natur gebotene Verhalten und den wahren Wert des Naturschutzes hingewiesen.

## NATURSCHUTZ IN POLEN — S. 11

W. Michajlow, Vorsitzender des Ausschusses « Mensch und Umwelt » der Polnischen Akademie der Wissenschaften

Der Naturschutz war für Polen schon lange ein ernstes Anliegen, wie man an der Errichtung des Nationalen Naturschutzrates — übrigens der ersten staatlichen Einrichtung dieser Art — im Jahre 1919 ersehen kann. In den folgenden Jahrzehnten nahm die Naturschutzarbeit immer grösseren Umfang an: Listen gefährdeter Gattungen wurden erstellt. Zur Zeit gibt es 38 voll und 15 teilweise geschützte Pflanzenarten und 128 geschützte Tierarten in Polen. Weiter wurden bisher insgesamt 550 Naturschutzgebiete eingerichtet und Nationalparke, wie etwa der als Heimat des Bisons (Bison bonasus) bekannte Bialowieza Nationalpark, geschaffen. 1949 wurde die bisherige Naturschutzgesetzgebung neu gefasst, um eine planvolle Bewirtschaftung der natürlichen Umwelt und Hilfsquellen zu ermöglichen.

Polen hat auch auf internationaler Ebene eine Aktive Rolle gespielt (z. B. im Rahmen des UNESCO-Programms « Mensch und Biosphäre »). Gleichzeitig wurden im eigenen Lande noch weitreichendere Vorhaben zum Schutz der Umwelt und zur sinnvollen Nutzung der natürlichen Hilfsquellen in Angriff genommen. 1972 wurde ein Ministerium für Umweltfragen und Umweltschutz gebildet, dessen Aufgabe es ist, mit Hilfe der dafür in Frage kommenden wissenschaftlichen Einrichtungen und Gremien die gesamte Umweltschutzarbeit zu koordinieren. Eines dieser Gremien ist der wissenschaftliche Ausschuss « Mensch und Umwelt », der der Polnischen Akademie der Wissenschaften angegliedert ist; er bildet zugleich den polnischen Nationalausschuss für das UNESCO-Programm « Mensch und Biosphäre » sowie den nationalen SCOPE-ICSU - Ausschuss. Seine Aufgabe ist es, grössere Forschungsvorhaben in Polen in diesem Bereich zu koordinieren.

Der zweite Polnische Wissenschaftskongress, der 1973 in Warschau abgehalten wurde, zeigte das ungeheure Interesse, das derzeit von allen Fachrichtungen den Fragen des Umweltschutzes entgegengebracht wird. Als Ergebnis des Kongresses brachte der Ausschuss der Polnischen Akademie der Wissenschaften eine Veröffentlichung mit dem Titel « Die Aufgaben der Wissenschaft beim Schutz und der Gestaltung der menschlichen Umwelt » heraus, deren Neuauflage gegenwärtig in Vorbereitung ist.

## EUROPAS ENERGIESORGEN UND DAS UMWELTSCHUTZPROBLEM — S. 17

P. A. F. de la Calle, Umweltschutzberater der Royal Dutch/Shell Gruppe

Die gegenwärtige Energiekrise stellt Europa vor das schwierige Problem, die nötigen Geldmittel nicht nur zur Deckung des über Gebühr angestiegenen Erdölpreises, sondern auch zur beschleunigten Entwicklung von anderweitigen Energiequellen zu erschliessen. Das erfordert verstärktes gemeinsames Bemühen von staatlicher und industrieller Seite.

Jeder Versuch, der Umweltprobleme Herr zu werden, muss realistisch bleiben, insbesondere deshalb, weil viele der vorgeschlagenen Lösungen starken Energieverbrauch mit sich brächten. Die Behörden müssen folglich aufgrund einer Abwägung der Kosten und des Nutzens für die Gemeinschaft als Ganzes bei der Prüfung der möglichen Umweltschutzmassnahmen Schwerpunkte setzen.

Als neue Energiequellen für Europa kommen in Frage: Ölreserven vor den Küsten Europas sowie Erdgas; Atomkraft; im Tagebau gewonnene Kohle, teerhaltiger Sand und bitumenthaltiger Schieferton (Hierbei wäre Europa auf Importe angewiesen).

Diese Möglichkeiten, verringerte Rohölimporte auszugleichen, können in Verbindung mit äusserster Sparsamkeit, wesentlicher Reduzierung von Verschwendung und verbesserten technischen Verfahren nur auf längere Sicht eine für unsere Umwelt günstige Auswirkung zeigen.

## ENERGIE UND UMWELT — DER VERBRAUCHER IM INTERESSENKONFLIKT — S. 20

Dr. Tilman Höhfeld, Arbeitsgemeinschaft der Verbraucher, Bonn

Der Verbraucher steht heutzutage vor einem grossen Dilemma. Auf der einen Seite will er laufend mit Energie versorgt werden, auf der anderen wendet er sich dagegen, dass die moderne Gesellschaft zuviel Machtbefugnisse erhält. Die Kernfrage ist, wieviel an Machtbefugnissen noch angeht. Der Verbraucher kann dadurch, dass er die Nachfrage nach oder den Verbrauch von Energie beschränkt, z. B. weniger Auto fährt, nicht mehr ohne weiteres die gegenwärtige Entwicklung in eine andere Richtung lenken. Dadurch, dass jeder sein eigenes Auto will, ist bekanntlich der Umwelt viel Schaden erwachsen; dennoch hat sich gezeigt, dass der eigene Wagen immer noch das wirtschaftlich und technisch geeignetste Transportmittel ist, auch, was seinen Einfluss auf die Lebensweise der Menschen anlangt. Wenn die vom Privatwagen verursachten Umweltschädigungen gewisse Grenzen überschreiten, müssten wirklich praktikable Alternativen an Transportmitteln angeboten werden, um die Verwendung des eigenen Wagens einzuschränken.

Die allseits akzeptierte Tatsache, dass die verfügbaren Energiequellen in Zukunft sinnvoll genutzt werden müssen, bietet eine ideale Gelegenheit, den Energiebedarf der Technik mit den Belangen des Umweltschutzes in Einklang zu bringen. Diese Vorstellung wird aber im Angesicht der Energiekrise von den Fürsprechern billiger Energieerzeugung untergraben. Es liegt den Umweltschutz hintanzustellen.

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