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Naturopa

european information centre for nature conservation

The symbol for the Council of Europe's nature conservation activities.
It will also illustrate the Centre's campaign on the conservation of wild flora and fauna and natural habitats, which will be launched in 1979.

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Front Cover: *Rock carvings of elk (3000 B.C. – 1500 B.C., Sweden)* (Photo Ronnie Jensen)
Back Cover: *Hedgerow landscape in Normandy* (Photo C. Délu – Explorer)

Naturopa

No. 32 – 1979

A complicated matter

Seen against the evolution of our planet and its living species, among them man, it is only a twinkling of an eye ago that hunting was a necessity of life for those who inhabited our sub-continent. Hunting for food and clothes, hunting to protect life and property.

Not much of this remains in the Europe of today, and hunting and shooting have become, especially in the last few years, a subject of many heated, sometimes political, discussions. While there are millions of hunters, there are also millions of people opposed to this form of sport, recreation, passion or whatever one wishes to call it.

It would probably be honest to state that most hunters hunt because they like it. Hunting should not then be seen only as the final act of bagging game, but as the care and responsibility for game and other species as well as their habitats.

The great potential influence which those who carry weapons have over the nature they move in, the recent discussions on hunting and shooting in many European countries, and above all the Council of Europe's task to safeguard Europe's natural heritage and if possible enrich it, decided *Naturopa's* editors to dedicate this particular issue to the role of hunting and shooting in Europe.

Hunting and shooting are very complex matters, with man in the role of the predator, with historical and traditional strains, matters where passions may flare up high — both on the side of the hunters and on the side of those who are opposed to hunting.

Naturopa's editor believes that hunting and shooting, if practised in full recognition of the laws of nature and men, both written and unwritten, is beneficial to nature, of which we form an integral part.

This year, 1979, will see the launching of the Council of Europe's Information Centre for Nature Conservation's fourth campaign: the conservation of wildlife and natural habitats. It will be launched on the occasion of the Third Ministerial Conference on the Environment, to be held in Switzerland early in September, with as its main theme the compatibility of agriculture and forestry with the conservation of the environment.

Naturopa will thus devote an issue to the Conference's theme and a further number to the theme of the campaign. H. H. H.

Branta leucopsis (Photo Jan van de Kam)

Editorial

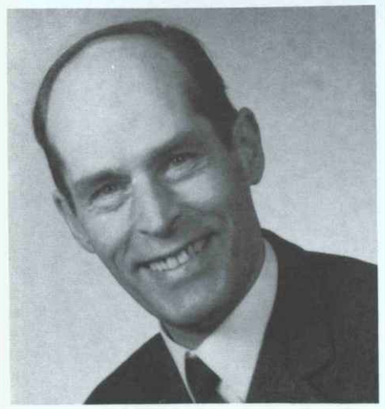
This issue of Naturopa *is devoted to the relationship between nature conservation and hunting. Traditionally, hunting is an activity which interests a great number of people. This raises the question of how more attention can be paid in the future to ecological considerations such as livestock pressure on the environment and the capacity of the biotope for species of game hunted, for example, under a modern wildlife management policy. This question is of particular concern to the governments of Council of Europe member states now working on a draft convention on the Conservation of European Wildlife and Natural Habitats (referred to below as the "European convention"). The background to this convention is as follows:*

In March 1973, the Council of Europe Environment Ministers recommended that certain measures be taken to preserve wildlife. On the basis of the decision taken subsequently by the Committee of Ministers, the Council of Europe's European Committee for Conservation of Nature and Natural Resources compiled a full inventory describing the state and development of European animal and plant species and their natural surroundings.

These studies showed convincingly that Europe's flora and fauna are in serious peril. In the interests of preserving something of vital importance to us all, measures to preserve these species and their habitats were proposed as a matter of urgency. An important result of this decision is that measures have been taken nationally by individual Council of Europe member states, for example by adopting new legislation on the protection of plants and animals or by organising and financing protection for their habitats.

The ministers responsible met again in the course of 1976. They considered the situation and agreed that the national measures adopted by member states were not enough to cope with the danger. This demanded co-ordinated joint action by all member states of the Council of Europe. They accordingly agreed to devise a legal instrument for the preservation of wildlife, with special reference to Europe's migratory species and natural habitats.

The ad hoc committee set up for this purpose by the Council of Europe's Committee of Ministers has drafted such a legal instrument in the shape of a draft European convention, which it has deliberated on several occasions. It is planned to submit this draft for final signature by government representatives at the 3rd European Ministerial Conference on the Environment in Berne in September 1979. It may be noted that work on the European convention has coincided with the drafting of a worldwide "International Convention on the Conservation of Migratory Species of Wild Animals" and of a proposed European Community "Directive on Bird Conservation" in Brussels. This coincidence affords an opportunity to match the content of the European convention to the



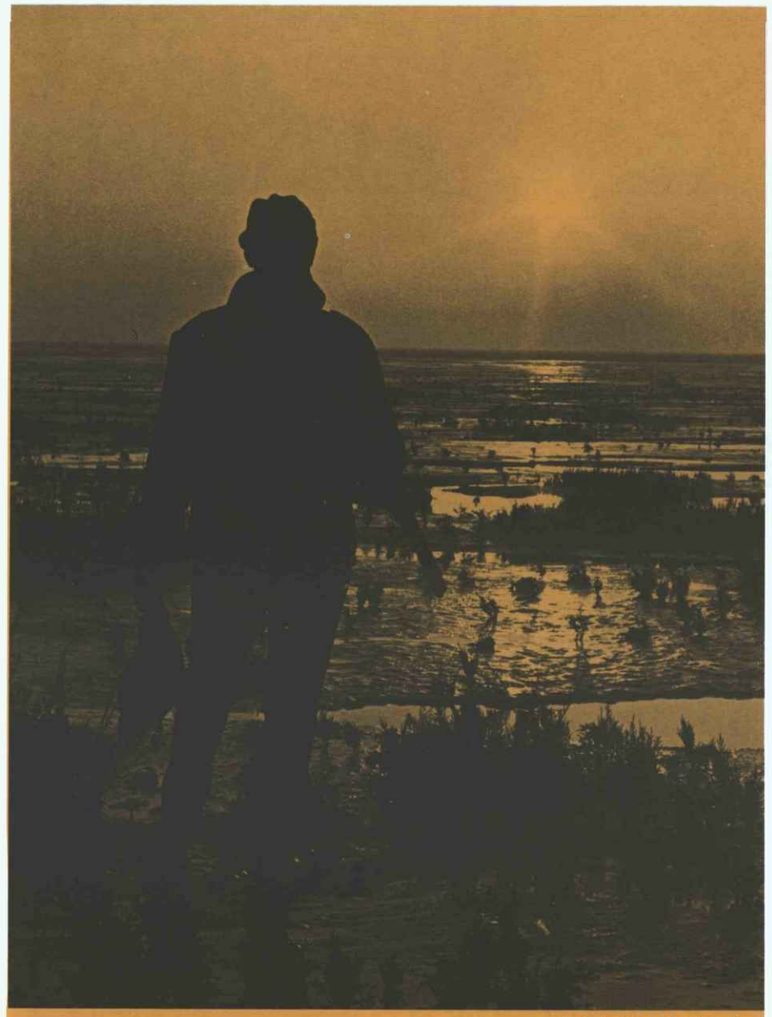
other texts and so avoid discrepancies. It also offers a chance to take advantage of progress made elsewhere.

Obviously, the European convention, like the other two drafts, contains proposals which affect hunting interests. Having been drawn up to counter the danger of dwindling numbers to which many animals are exposed, the Council of Europe draft is conceived as a comprehensive legal instrument to protect such species; it makes no distinction between animal species which, in some member states, are covered either by nature protection legislation or, as hunted species (game), by hunting law. This traditional difference ought not to be an obstacle to effective protection for species whose numbers and habitats are in danger in Europe. Furthermore, some forms of hunting, by reason of their detrimental effect on the numbers of certain species, ought to be controlled and, if need be, prohibited.

Experience in other instances has shown that the draft convention cannot be handled with suitable speed up to its final signature by government representatives at Berne in September 1979 unless the necessary relationship between nature conservation and hunting can be suitably put across. It is up to Naturopa *to enable the case to be put on both sides, reflecting their differing interests and divergencies as well as points they have in common. This forms the basis for a discussion in which the compromise between conservation and hunting will be more important than the actual content of the convention.*

In view of the acute danger facing numerous species of wildlife in Europe, it should be the aim of all those involved in the European convention to create a comprehensive legal instrument to protect those species. Accordingly, it would be most unfortunate if agreement on the conservation of nature were to be reached on the basis of the lowest common denominator. There is no point in adopting a European convention unless its provisions go beyond the narrow level of nature conservation as it already exists in the member states and offers a guarantee that the situation of species threatened with extinction in Europe can be improved. This demands a conscious effort on the part of the member states to adjust present national nature conservation and hunting provisions to the real need to protect species. This number of Naturopa *is intended as a contribution to that effort.*

Dietrich von Hegel



(Photo John Marchington)

Hunting: part of life!

Sven Fredga and Bo Thelander

A deep-rooted instinct

The rock paintings and carvings to be found all over Europe give man of today the most vivid impression of how much animals and their capture meant to his predecessors. The simple fact is that a successful hunt was essential for the survival not only of the single individual, family or tribe but of man himself. During thousands of centuries the cruel but highly efficient natural selection mercilessly exerted its influence upon the development of man's instincts and abilities: those who could not hunt and kill animals did not survive to produce offspring. In order to understand the reactions of modern man one must bear in mind that the few centuries we call historic time contribute very little if anything to the development of instincts compared with the vast number of prehistoric centuries. Every person living today reacts according to instincts developed to make him a successful hunter. It is only that these instincts are often disguised today, and the individual is often unaware that they are in any way connected with hunting. It is however fairly easy to discover such instincts when it comes to such activities as athletics, tennis, ice hockey and even playing chess, and when a man goes hunting, he is only following his instincts in a less disguised form than a man watching a football match. The conscious awareness of these facts alone should be enough to make hunting acceptable in our industrialised world.

A natural act

Hunting, however, involves moments distasteful to many people, mainly because hunting is inevitably connected with the killing of animals. Those who want to abolish hunting are often not aware of the intimate relationship between life and death. The simple fact that death is the absolute prerequisite for all forms of life seems to be obscure to many of us. In other words, every time you eat means the death of something, plant or animal. The hunter performs the killing — which is as natural an act in life as birth — and, unlike the venison-eating non-hunter, he does not need a stand-in. The recognition of these fundamental facts is a good basis for accepting hunting today. May those who feel competent to do so judge the difference of moral guilt between the hunter and the man whose demand for meat puts a butcher to work.

The competition for living space

Since the dawn of evolution there has been a never-ending competition for living space (*Lebensraum*) between species and between specimens of the same species, man not excluded. He fights other species — plants and animals — for what he regards as his benefit. In early stages he may have killed large carnivores for food; later, having domesticated some species, he killed predators to protect livestock and poultry. Today the wish to "protect" is a valid reason for killing. What else are you doing when you set a mousetrap or spray your roses with insecticides?

Whatever the causes, the situation that has arisen from man's activities is that some species, such as wild geese, rabbits, wild boar, red deer and elk (to name a few that are of interest from the hunter's point of view), would, if not regulated by hunting, grow in numbers and cause unacceptable conflicts with man's agricultural and silvicultural interests.

When hunting is prohibited experience has shown that two things occur: the rapid growth in numbers of certain species, probably ending in some ecological disaster, and/or uncontrollable poaching. Experience has also clearly shown that the most efficient way (and also the cheapest for the taxpayer) is to let the interested and well-trained and well-read hunter, under the guidance of wise game laws, regulate animal numbers and provide their necessary protection. He even pays for doing it. If traditional hunting is outlawed, the taxpayer has to pay for all game management, including number control and wardening.

The natural resource

The preceding heading might give the impression that wild animals are only a nuisance and should be kept at the lowest possible level. This is entirely wrong. On the contrary, the fact is that wild fauna (and flora) constitute a renewable natural resource, the aesthetic, scientific and economic value of which man cannot afford to lose. This wild fauna should be managed for the benefit of all, in a wise way and based on ecological knowledge. This is what the large majority of present-day hunters are striving for.

Hunting today is only a small part of a great wildlife management scheme for which the game laws provide the framework. Shooting seasons, culling permits, management obligations, etc., are in most cases based on scientific evidence and present knowledge of animal populations. The vast number of practical tasks — habitat management, creating man-made waters for waterfowl and wintertime feeding, to name but a few — which are the basis of well-managed game populations and of hunting are performed by the hunters, either by working themselves or by paying fees or wages at no cost to the taxpayer.

The killing of some specimens performed by man under the name of hunting, such as the culling of a roe deer population, should be regarded for what it is: the harvest of a natural resource, managed with the definite aim of reasonable yield. The killing only replaces that part of the natural and more wasteful mortality which will take place whether hunting is carried out or not. The economic yield of well-managed game populations can run quite high. For instance, the over-the-counter venison value of this autumn's cull of the Swedish elk population is estimated at about 300 million Swedish crowns (about £40 million). But the yield would not be high enough to pay for all sorts of management and for wages, social fees, etc., of employed personnel, should the authorities take over and prohibit normal hunting.

Conclusion: it is safe to state that hunting is a natural, integral part of wildlife management and the best, if not the only, way of harvesting game populations.

Some forgotten truths

The connection between the hunter's game management work and the opportunities for the general public to study wild animals is obvious and, to a great extent, adds to the recreational value of outdoor activities.

The hunter's urge for hunting and wildlife management brings him into close contact with flora and fauna, which he regards as a source of recreation, usually associated with a good deal of physical exercise.

It is a well-known fact that physically active persons are less liable to illness than those who are inactive. The accumulated number of "activity-days" for Europe's hunters must run into tens of millions and that at no cost for a society which is accustomed to spending a lot of money to create facilities such as sports grounds, golf links and ski-lifts in its efforts to stimulate physical activities.

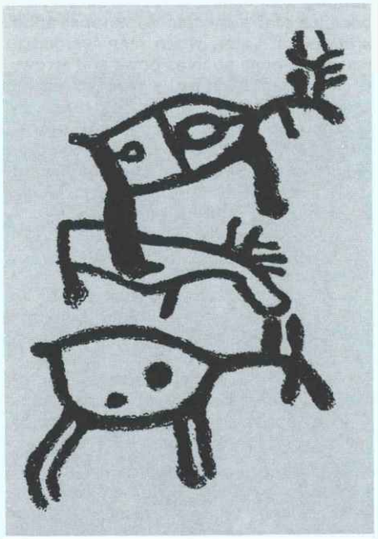
It is difficult to calculate the "health-value" (not to mention the "harvest-value") of the direct wildlife management activities of hunters (hunting as such included) and to express it in actual figures. However, the cost to society for each case of illness makes it clear that hunting also has other great, but seldom appreciated values, especially in today's technological and industrialised world.

For the future

The hunters and their organisations have, in most European countries, taken the initiative in the training and testing of future hunters. This is a sign of the high degree of responsibility felt by hunters and a guarantee that they will more ably participate in the management of wild fauna and thus reduce the number of cases of bad management.

All our efforts are needed to lessen the negative influence on wild fauna of industrialisation and the growth in human population. It is enough to mention words such as pollution, drainage, urban spread and desertification to imagine what faces us in the future. If hunting is outlawed and hunters are denied the harvest of the surplus of game populations — a task so deeply rooted in man's conscious and subconscious mind — the individual hunter will feel himself to be robbed of one of the strongest motives for activity in wildlife management. And society will be robbed of one of the strongest forces now active in nature conservation.

S.F. and B.T.



The spots which can be seen on the rock carvings, engraved by prehistoric hunters in Sweden, show the places where game has to be hit
(Photo Ronnie Jensen)

(Photo Jean Lavergne)

The rights of animals

Hans-Jürgen Weichert

Hunting: from a means of survival . . .

In ancient times, man used to hunt in order to satisfy his need for food. But hunting was at first a very arduous task, because of the animals' superior strength and speed. Later, when man learned to make weapons such as bows and arrows, spears and subsequently guns, things became much easier for him. However, like the animals themselves, he still hunted exclusively for his own subsistence. And even today, some isolated tribes are entirely dependent on hunting and fishing for their livelihood.

. . . to a pastime

When man became sedentary, took up agriculture and began to domesticate certain species of animals, hunting ceased to be a means of survival. It became a privilege of the nobility, who hunted almost exclusively on horseback and with a pack of dogs. It was one of the principal pastimes of princes and their courtiers.

Peasants were forbidden to kill animals and even to catch fish such as trout. The severest penalties were usually imposed on any who disregarded this ban.

In the past too, hunting was often an important social activity. This holds true even today. The lighthearted shooting parties and hunts that still take place in many regions are the main social gatherings of a small section of the population.

Governments also organise shoots in their countries' state forests for foreign ambassadors and distinguished visitors.

Having opportunities for hunting is still a coveted status symbol, especially in Western industrialised countries. Reminiscent of the former privileged nobility's attitude, a caste mentality can still be seen today. It is particularly reflected in the many genteel euphemisms with which the vocabulary of hunting is dotted. One does not speak, for example, of the "bloody trail left behind by a wounded animal", but of the "drops of sweat of a sick animal". Or again, one does not cut open the body of a dead young roe deer to disembowel it, but the animal itself is eviscerated: this is the so-called "red job". (*Translator's note:* this is a part of German hunting vocabulary.)

As a result of growing urbanisation of the countryside, the spread of cities and increasing industrialisation, the forest habitats of wild animals are shrinking. This means that hunting grounds are growing smaller, whereas the number of hunters is rising sharply. One is led to wonder whether hunting, in its present form in Europe and elsewhere, still has a place in our society. Many people are disturbed by hunting, for various reasons which need not be gone into in great detail here.

A cruel and unfair sport

There are first of all the ethical and moral questions arising with regard to the protection of animals. In this connection, the following thoughts occur to the non-hunter: is it not unfortunately true that the ultimate reason why game is so carefully protected in a few sometimes very limited areas is merely to ensure that there are always enough animals for hunting? Is not the only reason why animals of prey or, as they are pejoratively called, vermin — among which even our domestic cats are included — are relentlessly combated that they are seen as competitors liable to reduce the amount of game available to hunters? Might not this be the true motive, rather than the claim that it is out of sheer love for animals that predatory species are tracked down with traps, dogs and guns? Trapping, in fact, is an abomination and ought to be prohibited without delay.

Of course, it is true that there are many gamekeepers who are great nature-lovers and would never be guilty of cruelty towards animals. For them, wildlife conservation is an essential duty. It is quite understandable that such conservation should from time to time have to be carried out with a gun in order to kill in their own interests animals which are sick or unable to survive.

However, a hunter who spends his weekends or holidays hunting on his own or his friends' land is a different case. For him, hunting is above all a sport and a pleasure. His motive is, in fact, a passion for killing — nothing else, and that ought to be clearly stated. And if it really is a question of sport, what fairness is there when the hunter waits in a safe hiding-place until the game arrives unawares within gunshot or is driven there by beaters? And how many of these marksmen merely wound the animal, so that it frequently dies in agony, especially if there are no well-trained dogs at hand and no regard is paid to the laws and traditions of hunting, as is so continually the case? The driving of game is in any event a poor hunting practice, and all too often a hunter will pull the trigger quickly before making sure of his aim. And yet this is supposed to be a sport, an experience, a joy! It is hard, in fact, to understand how the mere annihilation of one of God's creatures can bring any pleasure. In addition, there is the animal's fear of death, its suffering and its wounds. Even so, these hunters call themselves animal-lovers!

A lucrative activity

A particularly common form of hunting is the massacring of animals in an enclosure. One can read about such possibilities in hunting magazines. The following advertisement recently caught my eye: "In our excellently designed enclosures, you can aim your gun at will at red deer, fallow deer and *mouflon* of all sizes and ages (all exceptional specimens). Shooting is available in generally easy conditions under experienced guidance. Discretion assured."

Safari parks are also reducing their stock of exotic animals while increasing their turnovers by inviting hunters to shoot at random, so that they may proudly bring home a lionskin, etc. Above all, the craze for trophies plays a particularly important role in the passion for hunting.

(Photo Ringier Bilderdienst)

The better one's financial situation is, of course, the further afield one can travel for one's sport. The opportunities are considerable: pheasant in the Hungarian countryside, *mouflon* in Slovenia, Great bustard in Spain. From time to time, one sees such offers as: "Good-sized wild boar from game enclosure — magnificent trophy — price negotiable."

One can also read where to kill a red deer for $ 100 or where it is still possible this autumn to bag a grizzly bear. One is told where to go to shoot a buffalo, zebra or antelope within not more than four days. For a magnificent elephant, complete with tusks weighing 80 or 100 pounds, a small advertisement specifies "Shooting costs about $ 1 000". And so on and so on . . .

Towards the recognition of animals' rights

It should be borne in mind that very few countries possess thorough-going or comprehensive laws on hunting. And yet, as we know, the populations of many species of animals are in danger, while others are already near extinction. As a result, many hunters are in a hurry to kill an animal and secure a trophy.

I have nothing against responsible conservation, even by hunters, in cases where the control of numbers is necessary owing to the limited availability of resources for animals. Such measures undoubtedly serve to maintain stocks of game, at least in Europe. There are, however, still countries, such as Great Britain and France, where fox and deer hunting are authorised. The governments concerned ought to ban such practices as soon as possible. Not surprisingly, this form of hunting is condemned by all animal-lovers as a repugnant act of cruelty which does great harm to the reputation of hunters.

Any hunting which involves killing for sheer fun just about anything which moves in the forests and fields, including cats and dogs, as well as the yearly slaughtering of millions of songbirds (especially in Italy) not only makes mockery of the ethical protection of animals, a concept gradually gaining recognition, but is also in flagrant contradiction with human dignity and responsibility, and ought therefore to be outlawed. In hunting, as in many other areas, this emergent new attitude must prevail, for animals too have a right to life and well-being. H.-J. W.

FACE

Joachim Graf Schönburg and John Swift

In the face of their need to be represented on the highest decision-making level, some 6 million hunters throughout the countries of the European Communities created two years ago, through their national associations, an international body entitled FACE (*Fédération des Associations des Chasseurs des Communautés Européennes* — Federation of Hunters' Associations of the European Communities).

Aware that both nature conservation and game management have become matters to be dealt with on the international level, FACE has its headquarters in Brussels in order to be in direct contact with the Commission of European Communities, bearing in mind that this body's directives are to enter into national legislation.

FACE maintains that responsible hunting is a perfectly acceptable use of renewable wildlife resources. FACE therefore also promotes it and wishes to ensure that hunting is done by responsible hunters.

The Federation aims on the one hand at raising the sportsman's standards and bringing these into line where necessary with the demands of nature conservation, while on the other hand expecting to safeguard the sportsman's interests throughout the countries of the European Communities and elsewhere in Europe. Convinced that "what is good for wildlife is good for the hunting community", FACE expects to be able to help avert what it sees as the real threats to wildlife in Europe: industrialisation, pollution, excessive recreation pressures and above all loss of habitat. J. G. S. and J. S.

(Photo Richard Akehurst, extract from *Abbildungen der jagdbaren Tiere*)

An international commitment: the Council of Europe's European Committee for the Conservation of Nature and Natural Resources during its last session in December 1978 (Photo G. Teton)

Shared responsibility

S. Dillon Ripley

Necessity of international co-operation

To anyone who has grown up before or during the last world war, the changes of the past few years must surely have brought home the urgent need for international co-operation at all levels. The countryman is aware of the changes on the land, which, first imperceptibly, now in a sudden rush, are radically altering our conceptions of our living space. The cities sprawl into the countryside, or create satellite urban aggregations in the most unexpected places. Motoring along a highway, a screen of trees suddenly ceases to reveal blocks of apartment dwellings rising from former tree-covered hillsides. Farming is more and more the prerogative of the mass-technology, factory approach, squeezing the individual out, and altering the face of the country with vanishing hedgerows and drained swamps and channelled streams.

With the surge of population invading the land has come the mass use of chemicals as herbicides or insect controls. Technology has refined our communications and transportation to create a world which economically is interdependent and inter-communicated as never before. Today biologists have a moral commitment to speak up on behalf of our fellow-travellers on our shrinking planet as never before.

It is curious that those who are not biologists close their eyes to such responsibilities. The economist or banker, the political scientist or government worker can be well aware of the need for international co-operation for economic or governmental reasons. Such a person can rationally curb his nationalistic instincts in the face of the increasing interdependence of business, trade, or political or military strategies to preserve the health of Europe, let us say. The priorities are clear, writ large for all to see.

That same person, journeying off to the country for the weekend, seems to put on another personality, a set of values and a different rationale for existence. Perhaps it is nostalgia? Perhaps it is a common urge to rest one's mind from the preoccupations of the working week? In any case, those who leave the city to hunt cast care aside and think of their own sport, their own pleasure. Not so the biologist. Like the countryman, those trained to be concerned with the turning tides of nature, the seasons, the population cycles, can only be aware of change. Change is a part of nature, for nothing in nature is static, King Canute to the contrary. But for the first time in recorded history, the gradual accumulation of changes wrought by mankind, bid fair to be of such a scale as to tip the balance. The changes may be irreversible. Change in the present case is leading to decay. Decay may eventually be fatal for our environment. And so biologists should speak up, as positively for the fate of nations and our economy as politicians and banker-traders.

Hunting and nature conservation: a common history

The history of conservation in Europe and North America is roughly similar. It is combined with hunting. To some extent it was all started by sportsmen. That is why I say the twain have met in the past, for the early history of hunting was closely tied up with the inviolable rights of the landowner, whether aristocrats, kings, or small landholders. They alone could take game, and the laws of "venerie" stretch back as far as landholding is recognised. Early in this century, hunters combined with voices of conservation, often fishermen or simple nature lovers, to create a first attempt at control of hunting. State and local governments promulgated laws for hunting, usually in response to the views expressed by leaders of such opinion. By World War I, there were not only codes of laws in most countries of the Western world, largely replacing the authority of the former landlords, a code of tradition which was inevitably eroded by the new democracy, but also active clubs or other associations of sportsmen or game lovers, attempting to create a body of opinion favouring sportsmanship, and inevitably conservation. The International Council for Bird Preservation was

created through such sentiment in 1922, and the International Hunting Council for Game Conservation in 1930. These and similar clubs and game organisations have had a close relationship with the creation of game laws in the Western countries, throughout Europe and North America, as well as particularly in the former colonially-dominated nations of other continents. By now of course there is a vast code of laws and regulations in every nation, and a new bureaucracy of careerists dedicated to "fish and wildlife" bureaux, departments and arms of the government.

All of this is progress towards creating a favourable atmosphere for the marriage of hunting and conservation. But the peril of bureaucracy is in its self-perpetuation as a "bureau" mentality, more interested in the desk, office and progressive career, than in observing nature and its own inevitable laws which are not subject to man's control (except in the face of the vast technological powers that are now at man's disposal). Additionally such bureaux are more influenced by hunting clubs than by biologists, or at least were in the past, until the remarkable decline in game brought home to many hunters the need for prudent rationing of hunting on the principle of "sustainable" yield.

International agreements to preserve migratory game

Only since World War II has there been an effort at moulding public opinion internationally in the realm of hunting and some attendant codification of laws. In North America the pioneer treaties between Canada and the United States in regard to migratory game have been on the record since 1916, and they have been invoked to form the foundation of a network of international treaties with countries neighbouring to the south and west across the Pacific Basin. Regulations on hunting and the preservation of birds which migrate between these countries still remain to be developed fully in concert with each other.

In Europe the problem is of course even greater, more massively populated, with highly intensive agriculture and urbanisation on every hand, with river pollution combined with drainage projects creating ever shrinking water areas for waterfowl and waders, and with an aggregation of nearly twenty nations whose hunting laws are widely at variance. National pride and antiquated hunting customs (totally at variance with a biological point of view, which can be the only standard against which any conception of the wealth of these resources can be measured), run counter to the democratic principle of "the good of all". What is good for the population of one country, the return of the waterfowl in the spring bringing enormous aesthetic relief to the Finns, for example, may not be a matter of moment for Italian sportsmen and hunters when the birds fly south. Obviously the only answer is to create a federalised system of game laws and hunting regulations for migratory game. Just as economics presume co-operation for the good of all in a European Economic Community, so the legitimate taking of some game each year must depend on rational use wherever and whenever it can be determined. This requires supra-national co-operation. And already additional organisations exist to advise and assist through meetings and publications. In addition to those mentioned there are the International Waterfowl Research Bureau, a separate offshoot of the International Council for Bird Preservation, founded in 1948, and the International Union for the Conservation of Nature, also founded in 1948. The latter has had an extra useful role to play in disseminating information on game and hunting regulations of different states, and, through organising international meetings, attempting to remind the state fish and game authorities of their responsibilities to their own citizens to alert them to the wholly international responsibilities which they now must share.

The positive contribution of scientific research

In all of this, research is paramount. Nature is change. No static code of regulations, beloved of the bureaucrat, will ever be true to the facts. Here it is the responsibility of the biologists and ecologists working through such organisations to remind the government authorities of the value of research, and of the necessary close collaboration of private organisations or non-governmental associations as well as individuals of every sort of expertise who can assist with facts. Waterfowl, for example, are subject to erratic fluctuations and shifts in winter ranges as bird-banding (or bird-ringing) has demonstrated over the past fifty years in North America. This ringing, started by private organisations, is now one of the most valuable tools in co-operative international understanding, and hunting regulations stem from data assembled in this way. In Europe similar shifts in population are occurring, not always easily documented. The occurrence of the red-breasted goose, *Branta ruficollis*, wintering in highly significant numbers in the Black Sea areas of the coast of Romania, was only observed in this decade, and the wintering of smew, *Mergus albellus*, in very large numbers in the new polders in the Netherlands, is a very recent novel discovery. Similarly the discovery in California of larger numbers of Ross' geese (*Chen Rossii*) than were thought to exist, wintering south of their known wintering range, has brought a different perspective to the survival of that species.

All species ebb and flow, and only a sophisticated documentation by an internationally oriented and well-informed group of hunters, administrators, ecologists and lovers of nature can guarantee the perpetuation of some rational sport as well as true understanding and appreciation of the value of our fellow creatures. As long as human nature persists, individuals will have to mature noticeably to develop their sense of place among their fellow creatures. Part of that comes from a sense of kinship with nature, love of the out-of-doors, and much of this has traditionally been associated with sport. As the camera and binoculars gradually substitute for the majority of guns, one cannot however abolish the guns, for they form an adjunct to conservation itself. Paradoxically enough, just as the predator-prey relationship in nature is part of its balance, hunting is an asset in conservation. But the highest rational level of understanding of this relationship requires supra-national understanding and regulation.

S. D. R.

Caring for game

Charles L. Coles

"Hungry as a hunter" is an expression we have known since boyhood. At one time man hunted purely for food, but now when we stalk our roebuck or wildfowl it is probably more for the other pleasures that hunting brings us — the aromatic scents of wet woods, salty estuaries, hills covered with purple heather, dogs working, even stealing a critical look at the way somebody else farms his land!

The Game Conservancy is concerned with hunting and conservation. We are therefore sometimes exposed to people who ask: "How can you pretend you are interested in conservation, if you kill creatures?". This article debates some of the issues involved.

Research on game

The Conservancy has been in existence for about fifty years and carries out much the same work as the National Game Institutes in other countries. We are not, however, administered by the state — being a private organisation funded mainly by members' subscriptions, fees from advisory consultations and other such services. In addition we receive some Government grants where the research projects also benefit agriculture or ecology in general: say, the cereal farmer as well as the partridge hunter, or the forester as well as the pheasant shooter.

The research staff is complemented by a team of field consultants — themselves all experienced hunters — whose task is "to turn the words into birds". Our findings are essentially for practical use. For this reason most of our game advisers have agricultural qualifications and a thorough knowledge of farming. In the end it is the farmer or landowner who holds the key to the success or failure of his game crop. If we want to discuss the value of hedgerows, for example, we must show that we also understand their disadvantages in labour costs, as weed reservoirs, competitors for valuable cropping space and so on. We then have more chance of getting our ideas accepted in respect of game.

One of our most important projects is concerned with the use of sprays on farm crops and their effects on partridges (*Perdix perdix*) and other wild birds. Chemical sprays are certainly vital to efficient cereal and sugar-beet production, but in our opinion too many farmers consider only the yield, without costing the agro-chemical bill and the final profit margin. The days have gone when the yield curve rose sharply and the gap between tons per hectare and the cost of the spray applications widened so satisfactorily. On many farms there is an "overkill" situation, with little or no benefit to the harvest, and an adverse effect on the partridges unless the weather so favours the vital insects they need for food — as in 1976.

Other projects are similarly concerned with fitting pheasants, red grouse, wildfowl, woodcock and deer into our hard-pressed and sometimes hostile countryside.

Perdix perdix

In this landscape which he has shaped, man has, however, ensured that game may still find its means of subsistence: food and shelter
(Photo Kenneth Scowen)

Critics and realism

The Game Conservancy is not politically motivated. As game biologists and wildlife consultants our attitude to hunting is quite simply that game is a valuable natural resource which should not be wasted — a crop which deserves to be properly husbanded, and in due course harvested with enjoyment. Or, if need be, sold like the wheat.

Whilst we accept the fact that there will always be critics of hunting, it is a pity that so many of the opinions expressed are highly emotional and not based on sound biological facts. Most forms of wildlife have to be managed. Apart from hunting the surplus created by good management, some species will increase naturally — and dramatically — which will involve controlling their numbers.

"Controlling?", the critics will say, "that means killing!"

Urban dwellers — perhaps responsive to too many TV films on natural history, enjoyed comfortably from an armchair — seem to imagine that it is always blossom time in the forest; that the young deer, winking their long eyelashes, are forever gambolling about like Bambi. Sylvan life is a sort of happy fairyland interfered with by the dreadful hunter. The townsman does not perhaps realise that if deer populations were allowed to increase unrestricted, immense damage would be caused to crops and timber. Eventually the deer would outstrip their food supply, starve and succumb to disease. I remember an American film discussing this issue. Having suggested that man really has to control animal populations, it ended by asking the question: "Whom would you prefer to do the job? A hunter with his rifle — or a uniformed state employee and a drum of cyanide, financed by the taxpayer?"

In Great Britain it is often red grouse-shooting that is most attacked; oddly enough on biological grounds it is probably the easiest to defend. Red grouse (*Lagopus scoticus*) are short-lived birds; their average annual mortality is about 65% *whether the hunters shoot them or not.* The birds that fail to get territories will be driven away from their home range and die of stress, parasites, predation or hunger.

Shall we hunt the birds or let Nature kill them off?

Red grouse are as much a crop of the moors as sheep and timber. They bring us tourists and foreign currency: and the special management that is required for the heather safeguards a unique and beautiful environment. If red grouse-shooting stopped many of our purple hills would turn into dull "white ground" due to over-intensive sheep-grazing: certain other areas could be planted with dark, sombre forests of conifers.

Sometimes well-meaning protectionists try to restrict the hunting of a species which is declining. Admittedly in certain countries where public hunting is the rule the shooting pressure is very often too heavy. But in many other cases the decline of the game may have nothing to do with over-shooting: the continued erosion of the birds' breeding habitat being the basic cause of the decline — not the hunting. To provide an "early warning" system of such fluctuations, the Game Conservancy in the United Kingdom — like many other countries — operates a National Game Census.

In general, we try to ensure that accurate facts, as opposed to emotive opinions about all aspects of hunting — including its economic value — are made known to those in authority: in Brussels and Strasbourg, as well as Westminster, so as to prevent unrealistic and damaging suggestions becoming law.

Hunting on private land — some benefits

When hunting takes place on private land, as in the United Kingdom, there is always more game than where there is no hunting. The habitat protection, predator control, nest management, feeding and generally more sympathetic farming ensures this. The ground is shot with restraint because there is always next season to consider. All this is obviously achieved at no expense to the state — a fact of little interest to the public, except that the management of game also ensures a much richer diversity of other species, including trees and plant life, which all enjoy.

Very few farmers today would set out to provide sanctuaries purely for songbirds, wild flowers or butterflies, but good game conservation puts a protective umbrella over a great variety of species. The essence of caring for game is caring for its habitat: which is at the same time our own countryside. It therefore has a considerable impact on preserving the beauty of our landscape.

Looking out of a train window in England it is easy to distinguish the farms where hunting is of importance. A proportion of the hedgerows and other cover will have been retained: there is likely to have been an attempt to plan the crops in some sort of chessboard pattern — avoiding very large blocks of monoculture. Chemical sprays tend to be selected with a great deal more care than on land where their effect on the partridges is not taken into consideration.

On a farm which is purely a food production unit and where the planning is dominated by machines and agrochemicals, the land will be open, bare and ugly. Barbed wire replaces hedgerows, electric power lines stand out stark against the empty sky. "Birdcage Britain" someone called this type of terrain. There will be little diversity in crops or woodlands. Monotonous firs and pines — with their quicker monetary return — will probably be the choice of the non-shooting farmer, rather than a mixture of hardwoods and evergreens, complemented by attractive shrubs for pheasants.

Our own Advisory Service spends a great deal of time helping sportsmen to plant new game remises, nesting sanctuaries, restructure large woods, site game crops and construct wildfowl pools. The shooting landscape is being cared for, an echo of our Victorian forefathers who planted for the pheasants and foxes they loved.

Public shooting — some of the problems

In countries or in areas where the shooting is open to the public, a farmer has little incentive to maintain cover for game. The eradication of a small group of thorn bushes will mean an extra sack of barley. If the farmer leaves such a wild corner, the quail or the partridges that hatched there would almost certainly be shot by some hunter from a hundred kilometres away. In such circumstances the extra barley probably makes more sense.

In Hungary and other parts of Central Europe, the grey partridge has virtually been squeezed out since state and collective farming changed the landscape, with the 500-hectare fields and the accent on monoculture. A sea of maize, sugar-beet or vineyards stretching to the horizon — unrelieved by any other form of cover, woods or crops — cannot provide the right living conditions for gamebirds. As far as the partridge is concerned there is no remedy. For pheasants new coverts have been planted and filled mostly with reared birds to attract tourists and others. Skilfully carried out this can provide good sport, though some of us would say that it is not the same and need not have happened.

This giant "hoover" is used by the Game Conservancy to determine the effects of chemicals on some of the insects which form part of the vital diet of partridge chicks
(Photo Downland Studios)

For many years I worked on red-legged partridges (*Alectoris rufa*) in Portugal. Practically every private estate was an oasis of game abundance and provided a surplus of birds which spilled over into the public hunting areas around. Here there was naturally no thought of conservation for tomorrow, only hunting for today! The neighbour would provide — after all he could afford to. The system was not perfect, but it had quite a lot to offer.

Now such private shooting has been abolished and — although the officials are valiantly striving to replace it with something else that may in time have merit — the destruction of game by the free shooter has been devastating. Visiting an area last year which had before the change provided the guns with a tableau of 700 wild partridges in a day (probably requiring some 2 000 birds to have been flushed by the beaters) I observed but seven birds! Somehow we must look for a better compromise than this. Free shooting for all is a great vote-catcher for a politician, but in terms of wildlife it is like borrowing money and getting more into debt.

Across the frontier in Spain, however, there is still a high density of wild partridges, and still private game rights. Undertaking a rough census on a Ciudad Real *finca* a few days ago, between 8.30 and 9.30 a.m. we counted over 1 000 red-legged partridges flying up from the farm tracks as our car toured the area! Here in an average year the guns can safely shoot two birds to the hectare, and a sufficient breeding stock is ensured for the following season. The partridge is symbolically golden in value — worth about £10 each to the owner of the land — and providing some useful jobs on the shoots between harvesting the grapes in October and the olives in January.

Incidentally, the Game Conservancy is currently at the centre of a multinational red-legged partridge research project, co-ordinating the efforts of game scientists in Spain, Portugal, France and the United Kingdom. By working as an international team, time and money — and birds — are saved.

An incentive for protecting the countryside

As our countryside is visibly shrinking, we need every possible reason for protecting it with skill and affection. Hunting gives us one such *raison d'être.* At least as the world shrinks, travelling becomes easier (though some would query this statement!) boundaries soften, we learn each others' languages — and wildlife problems are more regularly discussed at international level. The Game Conservancy is proud to play a small part in helping to solve our common difficulties. But time is *not* on our side.

C.L.C.

Anser albifrons (Photo Jan van de Kam)

All over Europe

Geoffrey V. T. Matthews

Hunters of sedentary game are rather readily brought to the practice of responsible conservation. If they kill too many animals the diminution in the population available for their sport is rapidly apparent. They can then redress the balance by killing less and by improving conditions for breeding and by adding artificially reared animals to the natural population. The results of such conservation become readily apparent to the practitioners themselves, so reinforcing their interest and efforts.

In the case of migratory game, and above all waterfowl — ducks, geese and waders — the situation is much less easy for the hunter to comprehend and control. Such birds in general nest far away from the places where they are hunted, spread sparsely over the northern tundra. For some species the nests were only discovered for the first time in the present century. It is only relatively recently that the marking of birds on their breeding grounds has revealed the full range and complexity of the migrations. Thus Brent geese (*Branta bernicla*) reach the British Isles from as far apart as Melville Island, Canada and Taimyr Peninsula, Soviet Union, an arc of 215° of arctic longitude. Barnacle geese (*Br. leucopsis*) wintering in the Netherlands come from the region of Novaya Zemblya, Soviet Union, whereas those in Scotland come from Greenland and from Spitzbergen. (These latter stocks do not intermingle, although they winter as little as 150 kilometres apart.) Garganey (*Anas querquedula*) wintering in Senegal breed predominantly in central Soviet Union. Ruffs (*Philomachus pugnax*) marked in England have been recovered as far to the east as Vladivostok. Clearly no regional group of hunters, nor indeed any one state, can, on its own, ensure the survival of these highly migratory species. International co-operation is essential, and this is recognised in the various conventions that are being negotiated at the present time — the universal Convention on the Conservation of Migratory Fauna, sponsored by the International Union for the Conservation of Nature and Natural Resources (IUCN) and the Government of the Federal Republic of Germany; the regional Directive on Bird Conservation of the European Communities; and the Council of Europe's own Convention on the Conservation of Nature.

There is another feature of migratory waterfowl that makes it difficult for the individual hunter to grasp the need for conservation. Waterfowl congregate in winter flocks in rather few places. Such behaviour is normal, but it has become exaggerated as more and more of the wetlands on which the waterfowl are ecologically dependent have deteriorated or been destroyed. Thus in some localities waterfowl may seem to be as abundant as ever or even more numerous. It is not easy to appreciate that a great throng of birds milling over a few hundred hectares in southern Europe is the produce of tens of thousands of hectares of breeding habitat in the north and east.

"Ramsar"

The need to save the remaining wetlands from destruction is at the core of the problem. This was recognised in the Convention on Wetlands of International Importance Especially as Waterfowl Habitat, also called the Ramsar Convention after the small Caspian town where it was agreed. So far, twenty-four states have become parties to this convention and two more are in the process of ratifying their signatures. Besides agreeing to undertake general measures of wetland conservation within their territories, the states parties have nominated a list of more than 170 wetlands, covering over 5 600 000 hectares, which are set aside for especial conservation against all encroachment. All the countries of the Council of Europe which possess major wetlands are now involved in this convention, save only France, Spain and Turkey. Other countries which have ratified are Australia, Finland, South Africa, Iran, Bulgaria, Pakistan, New Zealand, Soviet Union, Jordan, Yugoslavia, Senegal, Poland and the German Democratic Republic (listed in order of accession).

Hunters and conservationists alike must ensure that their governments keep to the spirit and the letter of the convention. In particular, more wetlands should be placed on the especially protected list; some countries have only named one wetland, the minimal requirement for accession. There has also been reluctance to place estuaries on the list. They are particularly prone to 'development' and may be considered as the most threatened of wetland habitats.

However, good progress has been made under the aegis of Ramsar. A particularly pleasing change has been the way in which thinking hunters have become active conservationists. The modern hunter/conservationist was epitomised by Jeffrey Harrison, whose sudden and untimely death has robbed international conservation of a leading light. He was particularly effective in showing hunters how they could, in part, restore the balance by creating and improving artificial wetland habitats such as reservoirs and gravel pits. The Sevenoaks Gravel Pit Reserve was deservedly famous. The careful planting programme there was only undertaken after he had organised a substantial collection of guts from shot ducks to establish their food preferences. In recent years his energies had gone into organising the collection of duck wings, first in Britain and then in many other countries, to find out the sex and age of the birds that had been shot. The latter is particularly important as an indication of breeding success in any one year.

Waterfowl counts

If stable populations are to be maintained, hunters should take only as many birds as are "surplus" to the basic requirement for replacing natural losses. Determining just what the population size is, the natural mortality it suffers, and the rate at which potential replacements are produced, is difficult enough in sedentary species, let alone highly migratory ones. The International Waterfowl Research Bureau (IWRB) has, for many years, been endeavouring to provide some of the answers, through a largely volunteer network. The tendency of waterfowl to congregate in winter does offer reasonable opportunities for ascertaining the numbers involved. With regular data from some 15 000 count points we now have a reasonable idea of population sizes in mid-January, when the migratory movements are minimal. However, by then the hunters have taken their main toll, and one of the most difficult things is to get them to give data on how large that toll is. Some countries, notably Denmark, have achieved reliable hunter-kill statistics, but IWRB has been less successful in eliciting such information from other countries.

An ideal solution would be to measure the population on the breeding grounds and determine how many have bred successfully, and produced how many young, before the start of the autumn migration. Unfortunately, this is not feasible for a variety of reasons in Europe. In North America, where there is ready access to the breeding grounds and sufficient funds to mount extensive aerial surveys, a mass of population statistics is collected each year. This is used to estimate how many birds will come south in the autumn and how big a toll will be acceptable within the biological parameters which have been established. This toll is then apportioned between the various states along the migratory "flyways". It is achieved as nearly as possible by an elaborate paraphernalia of regulations, varying the hunting season and the number of birds which any hunter may take per day. Under a complicated "points" system the hunter is allowed to shoot more birds of an abundant species than of one whose standing is in doubt. If a species is definitely in danger it can readily be taken off the hunting list for a time. Even with such flexible arrangements, great difficulties are encountered with high-arctic species, such as the Brent geese. These fluctuate wildly in their breeding success, in some years producing no young at all. It can be argued that such species are not suitable for treatment as game birds.

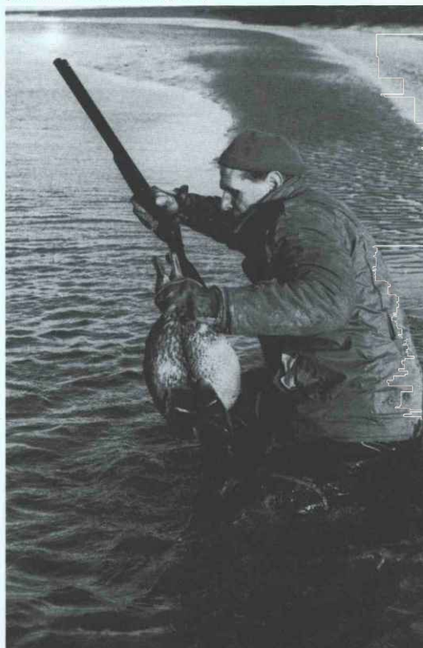
Whatever the merits of the North American system it is unlikely that it can be established, in all its complexity, in a Europe split into so many states, speaking different languages and with different political systems. But given a basis of reasonably secure biological data, much can be done by international agreement, albeit with less flexibility. Much has already been achieved by shortening the open seasons. In particular it is becoming accepted that it is a mistaken policy to continue shooting into the late winter and spring, thus killing birds which are already paired and migrating back to breed and produce the next round of young. There is more controversy as to how early in the autumn shooting should commence. Biologically speaking, if birds are to be killed, the sooner it is done the better; they do not then consume food which may later be of critical value to the survivors. But this pragmatic approach conflicts with sporting concepts that would allow a bird to become strong on the wing before exposing it to the hunter. It would also favour the countries producing the birds against those providing the just as essential wintering quarters.

When it can be demonstrated with reasonable certainty that a given species has declined to a dangerously low level, it is now generally accepted that it should be protected until such time as its numbers again permit it to be hunted. The trouble is that legal protection is not enough. A great many hunters are not capable of identifying fast-flying waterfowl and the necessary training should be the prerequisite for the using of a gun-licence. The problem is much greater in conditions of poor visibility, and most countries have banned nightshooting, with some surprising exceptions. The extent of illegal shooting at protected species, whether deliberately or in error, is indicated by X-ray photographs taken at Slimbridge in England of Bewick's swans (*Cygnus bewickii*) caught for ringing. Despite being totally protected in every country through which they migrate, from northern Soviet Union to Ireland, 34% of these birds carried lead-shot embedded in their tissues by out-of-range gunners.

Education and co-operation

Education as well as law-enforcement is vital to make effective the mass of restrictions on methods of hunting waterfowl that have grown up in the various countries. The general aim of such bans on techniques is to reduce the slaughter that any one hunter can inflict on the vulner-

(Photo John Marchington)



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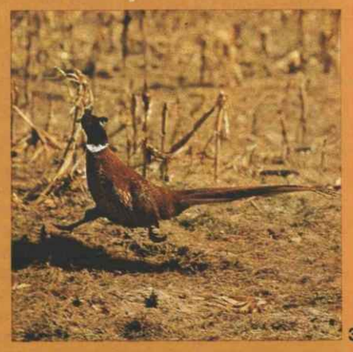

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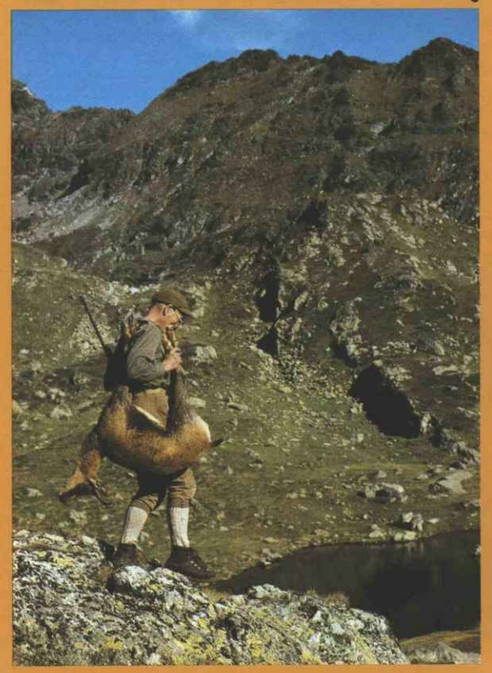

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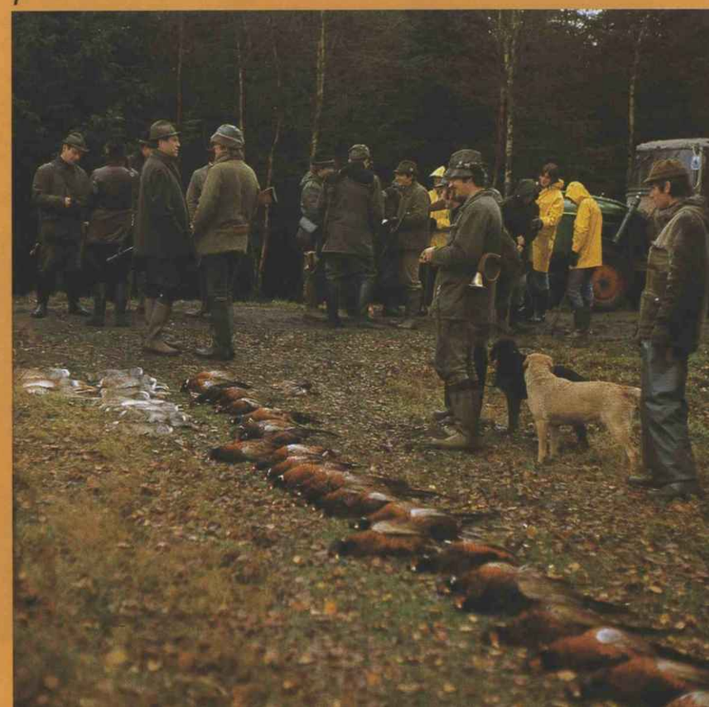

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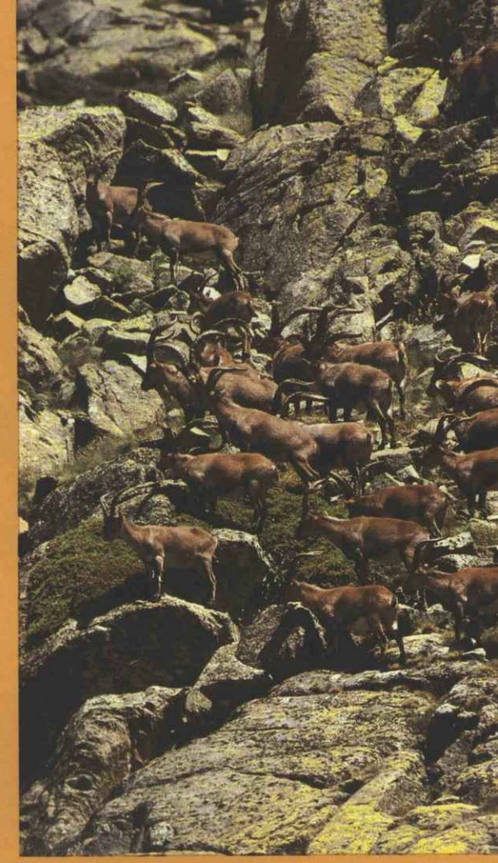

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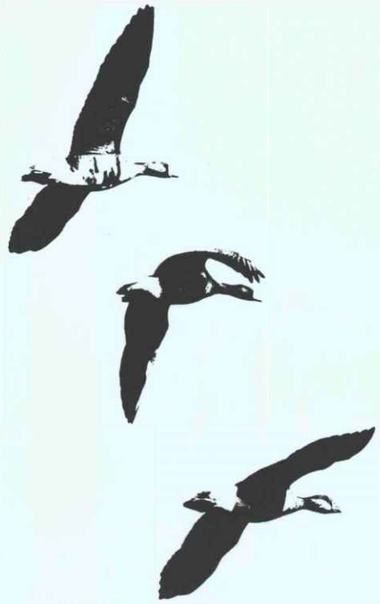


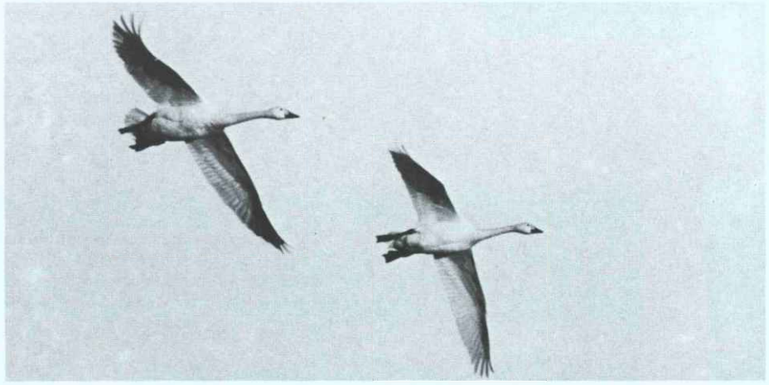
able concentrations of waterfowl. Such "rationing" becomes the more essential as the number of hunters, and their mobility, increases with a general rise in prosperity. Thus most countries prohibit the shooting of waterfowl from powered boats and aircraft; restrict the calibre of the shotgun and the number of cartridges it can fire without loading; discourage the use of live or artificial decoys, and of various calling devices, which attract the birds to the guns. Mass destruction by the use of nets is widely prohibited. A most important restriction, unfortunately still resisted by several countries advanced in conservation, is the prohibition of the sale of dead waterfowl. If a hunter is unable to dispose, for profit, of a kill excessive to the requirements of his family, he is less likely to embark on an unrewarding expenditure of expensive cartridges.

Given moderation in his kill there is still room for the human hunter as a tolerated predator, provided he accepts one further range of restrictions, those on the place and time at which he practises his sport. Waterfowl are notoriously wary and easily disturbed. The disturbance created by the hunter may be far more important than a modest toll of birds which may in any event not survive the winter. But with the diminution of wetlands and associated habitats, it becomes more than ever necessary that birds should be able to find areas where they can roost undisturbed. They must also be able to enjoy sufficient time in undisturbed feeding to replenish the energy spent in flight, keeping warm and other routine activities. Although waterfowl have, witness their eye structure, evolved as diurnal animals, many have now, because of daytime disturbance, taken to feeding after dark. Any disturbance then, by nightshooting, can be extremely serious in upsetting the balance of energy requirements necessary to survive harsh environmental conditions. Fortunately the need for a network of undisturbed refuges is now widely recognised. The hunters themselves are setting aside sanctuaries in the areas over which they have shooting rights, supplementing those set up by official or private conservation organisations.

This spirit of self-denial and co-operation, call it enlightened self-interest if you must, is becoming more widespread in many countries of Europe. It gives hope that those most spectacular of birds, the migratory waterfowl, will yet survive in our radically changing continent.

G.V.T.M.

Cygnus bewickii: although they are protected in every country they fly over, a large number of these swans carry lead in their bodies (Photo E. E. Jackson)



(Photo Wildfowl Trust)

Captions to colour illustrations

1. *Branta bernicla*
   (Photo Jan van de Kam)
2. *Cave paintings*
   (le Salon Noir, Niaux, France)
   (Photo Cambazard – Explorer)
3. (Photo J. C. Chantelat)
4. (Photo B. Winsmann)
5. (Photo J. Lavergne)
6. *Chamois-hunting*
   (Photo J. C. Chantelat)
7. *Game bag*
   (Photo B. Winsmann)
8. *Capra pyrenaica*
   (Photo ICF)

Roe deer: a case study

Helmuth Strandgaard

Roe deer are widely distributed, as attested by their presence in various geographical races which could be or can be found in a broad zone covering Europe and Asia.

The nominal race, the European Roe deer (*Capreolus c, capreolus*), according to Heptner (*Die Säugetiere der Sowjetunion*), had an original area of distribution covering most of Europe and parts of Asia Minor. Only in Ireland and the northern part of Scandinavia and Russia does the race not occur naturally.

At present it is difficult to place the demarcation line between the European race of Roe deer and the Roe deer *(Capreolus c. pygargus)* which is to be found to the east because the Roe deer in the assumed border regions have long been exterminated. In general, however, the European Roe deer is believed to have been present in all the western parts of European USSR.

Fluctuations

In some places (e. g. the United Kingdom), the Roe deer were exterminated in parts of the country as early as the Middle Ages. The greatest reduction in the area of distribution of Roe deer, however, seems to have taken place in the nineteenth and the beginning of the twentieth century. About 1880 the Roe deer had already been exterminated in many parts of Denmark and there was only a stock of about fifty deer from the Scandinavian population left on an estate in southern Sweden. In Russia it seems that the greatest decline in the population of the species occurred as late as about 1930. By this time Roe deer had disappeared in the greater part of the area between the Polish frontier and the Urals. Also in southern Europe Roe deer disappeared in many widespread areas during the nineteenth century. Since then it has gained ground again. In England, many parts of the country have been repopulated and the same goes for Denmark. In Sweden and Norway the population has increased from the few animals left so that it has not only filled its original area of distribution, but it has also gone further north than before. However, there are still big parts of the original area which the deer has not recolonised. Although hunting can thus play a decisive role for the distribution of the species there are other factors too which make themselves felt. Among these are the size-regulating factors due to the internal conditions of the population. The results of the investigations carried out by the Game Biology Station, Kalø, Denmark, can to some extent be used as examples to illustrate these things.

Turn-over and conditions of life

The Roe deer population at Kalø

Investigations carried out during a 25-year period have shown how the population which was not hunted at Kalø has remained at a constant level.

Practically all the Roe deer of the population are marked with numbered collars, and during the last thirteen years this collar-marking has been done in such a way that it has been possible to recognise the individuals with certainty in the field. With this method, it has always been possible to calculate the size of the population and to follow its turn-over. During the whole period the gains and losses of individuals have balanced.

Gains in the form of fawns which are reared in the area have been the most important kind of gain: 96 % of the total gain is due to this. As against gain in the population, which is governed by almost only a single factor, losses are due to various factors, and the response of different age and sex groups to these factors also varies.

Among 1 and 2-year old males, the only important reason for loss has been emigration, while the reason among older males (3–11 years) has been death due to accident. For 1–year old females, the major reason for loss is emigration from the area, while in older females (2–13 years) it is due to accident or disease. The turn-over is somewhat faster for the males than for the females.

Males of ½–1 ½ years and 1½–2 ½ years have a turn-over of about 50% per year, while males of 3 years or more have a turn-over of about 25% per year. As for the females, the major reduction takes place among the ½–1½-year olds. They have a turn-over of about 33 %, while females of 2 years or more have a yearly turn-over of about 20 %.

Amongst the males, the number is regulated through fights for dominance in each particular territory. The territory-holding male is the most important cause of male emigration. The age at which the young males are forced out is primarily decided by the development of the individual deer. Well-developed young males are forced out at 1 year, whereas the males which are less developed at 1 year do not exhibit territorial behaviour until 2 years old, and so they are expelled later.

Amongst the females, emigration takes place and works as a size-regulating factor when the deer are about 1 year old. The reason why females emigrate can be ascribed to the aggression the old females show towards their daughters of the previous year when they are giving birth again.

So the size-regulating factors are emigration of 1 and 2-year old males and 1-year old females.

The young deer have the possibility of establishing themselves in the area only to the extent that loss amongst the older animals permits it.

The direct reason why the excess production of young deer must emigrate is the mutual relations between the animals. The individual animals have certain demands as to space, and if there are more animals in the area than it can support, the pressure they put on each other will increase. Mutual aggression becomes more distinct and some deer are expelled. It will be the deer in the lowest social rank, the young unestablished deer, which will suffer the most.

Capreolus: the prince of the forest (Photo Jean-Claude Chantelat)

At the same time it must be pointed out that the condition for this basic system to work is that there should always be suitable biotopes with or without low population density where the excess can go.

The Rye-Nørskov population

It has been possible to study the consequences of lack of emigration possibilities in another Danish Roe deer population: the population in a 700-ha fenced forest and agricultural area. This population differed decisively from the Kalø population in various ways. In general, the animals were small and the males had extremely poorly developed antlers. Considerable differences in age-class distribution were also found. The proportion of ½-year old fawns was much lower in Rye-Nørskov compared to Kalø, and, on the other hand, old animals were present in a relatively higher proportion. The production of ½-year old fawns per sexually mature female was 0.9 at Rye-Nørskov compared to 1.8 at Kalø.

Analogously, an examination of the number of *corpora lutea* per sexually mature female revealed that there were 1.6 in the Rye-Nørskov population as compared to 2.0 in the Kalø population. Hereto it is to be added that the mortality through accident or disease in late winter and the spring months was considerable in this population while this kind of loss was very minimal at Kalø. The analysis of these facts was made on the basis of a total shooting of the population in 1954.

It is remarkable to note the development of the new populations at Rye-Nørskov which grew out of newly-introduced individuals. For a number of years the population showed a trend corresponding to that at Kalø, but later, problems were again encountered. The Rye-Nørskov Roe deer showed significant increase in the incidence of intestinal parasites. The differences between the two populations were primarily due to the fact that Rye-Nørskov is fenced. If an area is enclosed by fencing, then the excess animals in the population cannot emigrate. If there are no alternative conditions to replace the effects of emigration, such as shooting or other causes of mortality, then the number of animals in the area will increase above the level which would have been reached if emigration was possible.

The result of such an overpopulation seems to be reduced production and increased mortality due to accidents, and increased incidence of intestinal parasites.

The Roe deer at Borris

A third Danish investigation of Roe deer has been carried out at a 5000-ha military training area in West Jutland. The area was established in its present form in 1954. Since then the population has been closely followed through marking of the animals, but information from the previous period has also been collected. In this part of the country the Roe deer had already disappeared in the nineteenth century and new populations had not come into being until the beginning of this century. In a plantation immediately south of the area a population had already been re-established as early as 1908, and the first Roe deer appeared in the area, which is now the training area, the following year. In 1912 a deer was shot for the first time in the area. Thereafter there have been Roe deer in the area up to 1954 and 6–10 deer have been shot per year. However, there was no population in the proper sense of the word during the period 1908–1954, the pressure of hunting was simply so high that the deer had no chance to create a stable population.

The area consists of a central part which is a rather big piece of moorland. It has on the whole been kept unchanged throughout this century. But when the armed forces took over the surrounding agricultural and plantation areas in 1954 a considerable change in the biotope of the area took place. The farms were closed down, the forest plantation area was extended, and the biotope changed slowly in a direction very favourable for Roe deer. At the same time the hunting regulations were altered. Since 1954 it has only been allowed to shoot males from mid-May to mid-July, while females and fawns have been preserved all the time. As a result, twenty years later there was a population in the area of about 1 600 animals.

In this area, where up to 1954 there was only a bag of less than 10 deer per season, it is now possible to shoot up to 100 males. At the same time the marking of the animals showed that the population supplies an excess of another 100 males and about 200 females per year to the surroundings in the form of emigrating animals. As for this area there is no doubt that the change of hunting regulations is the major reason for the development of the population. For twenty years the population developed to a size such that the carrying capacity of the preserves was reached. From that time the now optimum population has in principle reacted in the same way as the Kalø population with special reference to intense size-regulating factors.

Attempts at generalisation

The three populations described above can to a large extent form the background for an evaluation of the conditions in the European populations of Roe deer. Of course, the results from intensive investigations of small populations cannot, without further proof, be applied to other geographical areas or other populations. But for an evaluation of the principles such detailed investigations can contribute to a better understanding of the conditions in big geographical areas.

During this century, populations covering the whole country have increased in England, Denmark, and the southern part of Norway and Sweden. These populations have had the possibility of establishing themselves primarily as a result of reduced hunting pressure, but also man-made changes in the biotope seem to play a certain role.

To a great extent, the present conditions in the areas mentioned can be compared to those of the Kalø population. The areas in question are to a marked extent cardinal areas (estates, forests, plantations) where the hunting pressure is relatively low. The result is that such areas constantly produce an excess which emigrates to the surroundings where the hunting pressure in general is high. In many places in these countries there could probably be a bigger total population, but on the other hand the high hunting pressure outside the cardinal areas means that there are constantly free biotopes where the excess can go. On the whole, the populations in these countries are vigorous and healthy.

Central Europe

Conversely, the conditions in many Central European populations are reminiscent of the conditions found in Rye-Nørskov. In the present situation there seems to be an overprotection of the population to a great extent, which results in overpopulation. In these countries Roe deer are seen in hedges and coverts more often than, for example, in Denmark. This is first of all due to the fact that an excess in the population has moved out to where they are easy to observe. (Roe deer living in open fields are different and have nothing to do with this.) In the same way the often-mentioned problems of deer dying by accident or disease in larger numbers and the occurrence of parasites to the extent that use of anthelmintic in free living game many be used, seem to be a general consequence of overpopulation in some parts of the countries.

A certain reduction of the Roe deer population in these countries would often mean better conditions for the remaining population.

Eastern Europe

Since the 1930s the Roe deer has again spread eastwards in Central Europe. However, as it is a question of enormous areas of land, the Roe deer has so far not succeeded in re-establishing itself in its original area.

South Europe and South-West Europe

In South Europe there are today big areas without Roe deer populations. Here, too, it seems as if the lack of Roe deer is due to hunting pressure which has been so high that it has caused extermination of the animals. In such areas a lower hunting pressure would no doubt result in the re-establishment of the species. There are examples of Roe deer restocking in areas where they have lived earlier, but in general a high hunting pressure seems to be the direct reason why there are constantly whole parts of countries without Roe deer populations. Conditions such as those in Borris before 1954 seem to be prevalent in many places.

Hunting and size of population

The overall conclusion of the information presented in this article is that Roe deer as a species possess internal mechanisms counteracting overpopulation in an area. If the number of animals rises beyond the carrying capacity of the area the aggression among the individuals increases. The animals in the lowest social rank, that is the young unestablished animals, will thus create an excess in the population and as long as the population can part with this excess problems do not seem to arise.

The availability of areas where excess Roe deer can go has probably played an important role in these conditions, but in the major part of Europe this factor does not exist any more. Today it is mainly through hunting that the population gets rid of the excess production, but at the same time we have seen that it is important how the hunting is done. Over a number of years hunting pressure on Roe deer may be so great that it causes the extermination of the species. On the other hand, a too low hunting pressure may result in poor development of the population. Differences in hunting practices in the various parts of Europe are considerable. Too little and too much spoils everything, also in this field, and the more people who realise that, the better conditions are for keeping the populations healthy and vigorous. It is necessary to understand the meaning of hunting, both as a negative as well as a positive factor.

H.S.

The gamekeeper: flora and fauna are placed in his care (Photo Jean-Claude Chantelat)

(Photo Jaroslav Vogeltanz – *Wild und Hund*)

Hungary: a living capital

Sándor Tóth

In Hungary, hunting rights, covering an area of 8.9 million ha belong to the state. They are either vested in state enterprises or transferred to hunting associations. Hunting is governed by a ten-year plan, co-ordinated with forestry plans. Holders of hunting rights also draw up yearly plans and are responsible for the management of hunting grounds.

Planning is designed to maintain and foster the quality of wildlife, without disturbing the biological balance of ecosystems. In the same way, hunting is aimed at the conservation of nature and wildlife, serving as both a leisure activity and an economic resource.

Hungarian hunters may be divided into two categories: the 26 000 or so (out of a total population of 10 600 000) who hunt for sport and are members of hunting associations, and the 1 500 professional hunters who are each assigned to an area of 6 000 ha with responsibility for gamekeeping and for the upkeep of hunting grounds.

A third category of hunters, which is fast expanding, is that of tourists. Tourist hunting, i.e. hunting by foreigners, is done both on hunting grounds belonging to state enterprises and on those rented by hunting associations. The organisation of tourist hunting is the responsibility of the MAVAD (Hungarian co-operative enterprise for hunting), acting as manager. Tourist hunting in Hungary is regarded as a further source of income for financing the development of hunting grounds.

To some, it may seem that the dues paid by tourist hunters are very high and that commercial interests override sporting ones. I can, however, state with certainty that, when the dues are being fixed, the ever-increasing cost of game management is taken into consideration. Tourist hunting represents a kind of subsidy paid by foreign hunters. The guiding principle is that it should in no way be detrimental to the interests of Hungarian amateur hunters.

The size of hunting dues is also justified by the quality of game offered. Hunters have a choice between fallow deer, roe deer, wild sheep, wild boar, hare, pheasant and wild duck, while showing a clear preference for red deer.

The prices payable for game naturally vary according to its quality and weight, as well as sex and age. For every wounded animal, hunters must pay 50% of the total price. In addition to hunting dues, tourist hunters must pay for board, lodging and transport, which can come to 15% of the hunting dues. There is also the cost of hunting licences and insurance.

Foreign hunters play a considerable part in the control of game populations.

The total 1976 bag included 18 000 red deer (out of a population of 38 000), 60 000 roe deer (185 000) and 338 000 birds of prey. Of this, tourist hunters numbering 8 000 accounted for 2 230 red deer, 5 080 roe deer, 96 000 pheasants and 226 000 ducks. The waterfowling season is very short: the 1978–79 season, for example, runs from 1 March to 20 April for woodcock (*Scolopax rusticola*) and from 1 October to 15 January for Bean goose (*Anser fabalis*) and certain other goose species.

It is important to remember that tourist hunting in Hungary is designed to promote the quality of game and foster harmony between forestry and game management. Strict application of this principle has ensured a satisfactory hunting situation in Hungary, as evidenced by the constant improvement in the quality of trophies. Indeed, Hungary holds the world record for red deer, fallow deer and roe deer trophies — one more strong incentive for foreign hunters! S.T.

Turkey: 1001 wild boars

Nihat Turan

Turkey, a half-way house between Europe and Asia with a very special kind of climate, has a very wide range of fauna. The numbers of big game have declined, however, because man has destroyed natural habitats and has hunted without restraint. Protection measures adopted in the last few years have enabled animals like red deer, roe deer, wild sheep and bears to develop, although such measures came perhaps too late for leopards, the last specimens of which are fighting for survival. The number of wolves is being maintained, but that of striped hyenas (*Hyaena hyaena*) is declining regularly. Apart from this big game, there are a great many birds of different kinds: Turkey is situated on the main migratory routes and shelters a rich and varied avifauna both during the breeding period and the migratory and winter months.

Hunting in Turkey is governed by the Territorial Hunting Act, adopted in 1937, which no longer in fact meets current needs. It does not contain the provisions concerning penalties that are needed in order to prevent offences, and it is for this reason that a new bill has been prepared and brought before the legislative Assembly. The Central Hunting Commission, which derives its tasks and responsibilities from the above-mentioned Act of 1937, meets regularly every year and lays down conditions and length of the hunting season for each species. It also deals with visiting hunters, cynegetic commerce and all other related aspects. Application of these rules and regulations is in the hands of forestry departments, administrative bodies and general safety organisations.

Hunting as a tourist phenomenon developed spectacularly in 1966–67. The Central Hunting Commission was obliged to adopt new regulations in the matter, given the increasing flow of foreign hunters, and the system of special authorisations for issue to foreigners wishing to hunt was adopted. Arrangements did not prove satisfactory, however, and for this reason the Ministries of Forestry and Tourism brought in jointly a new set of regulations whereby the organisation of hunting for tourists came exclusively under agencies having a "visitors' hunting licence". These were not entirely satisfactory either, however, and game resources were seriously depleted by the constantly growing number of foreign hunters visiting Turkey. In 1976–77 the hunting season for tourists was accordingly suspended, and the following year permits were only issued for boar hunting. This year, once more, boar-hunting in clearly demarcated areas is only allowed if a special permit is issued and on payment of a standard sum of $ 50 a piece.

There is also a plan to open certain zones for hunting the ibex and other species, authorisation being granted on payment of a flat charge, over the forthcoming season.

Once satisfactory arrangements have been made and game resources have been built up again, Turkey will be among the most attractive countries for hunters and naturalists in Europe. N. T.

Sus scrofa: abundant game, much sought after by tourists (Photo Jean-Fabius Henrion – ASCPF)

Spain: El Dorado

Jorge de la Peña Payá

Wildlife: an economic resource

The development of game hunting as a tourist pastime in Spain is relatively recent and is due to a higher standard of living in general, and the special attention given to the organisation of this activity. Game hunting falls under the 1970 law, which aims at encouraging and conserving the wealth of wild animals in Spain, and using it wisely in harmony with the various interests concerned.

According to the terms of this law, Spanish hunting grounds had to be restructured.

In 60% of the national territory the hunting grounds come under special wildlife legislation, which allows the owners, mostly businesses and private individuals with hunting and shooting privileges, to take measures to protect and manage wildlife in a rational way. In the rest of the country, hunting is subject to general guidelines laid down by the public authorities every year in a decree published by the Ministry of Agriculture.

This difference in legislation has an impact on the wildlife itself. Whereas in the part of the country falling under the general regulations there is an excessive amount of hunting which impoverishes the wildlife, the owners of private grounds treat wildlife as a natural resource all the more precious because particularly sought after by foreign hunters and the source of very flourishing business.

Landowners have very quickly seen the financial advantage of developing tourist hunting and have endeavoured to satisfy the demand. With the help of the Spanish property system and farming practices, they have developed wildlife on the same lines as any other economic resource. This approach has had a beneficial effect on the wild animal population in Spain and has prevented certain endangered species from dying out.

The Spanish government has also helped out in this effort by increasing the protection of certain endangered species, such as the bear, the wolf, the Pyrenees ibex (*Capra pyrenaica*), and the bearded vulture (*Gypaetus barbatus*). Government intervention is also important in fostering the growth of big game species, publicising hunting and shooting techniques and practices, and organising social hunts.

Different species

The growth of tourist hunting has had a particularly good influence on the wealth of game. In 1977, 2 705 hunting licences were granted to foreign non-residents, who come to Spain mostly to beat the red-legged partridge (*Alectoris rufa*), or to get a fine trophy of *Capra hispanica*, a species found only in Spain, the number of which reached 28 000 in 1977.

Foreign hunters are showing ever-increasing interest in other forms of hunting and different species, such as stalking or beating the Great bustard (*Otis tarda*) of which there are about 11 000 – undoubtedly one of the largest populations in the world. Foreign hunters are also very keen on stalking roe deer, red deer, fallow deer, chamois or *mouflon*. They also seem to like horseback hunting or stalking of red deer and wild boar, shooting partridge, quail, woodcock, hare and rabbit, grouse-shooting and hawking.

Non-resident foreign hunters in Spain are only granted a limited number of hunting permits in national parks and game preserves. Such permits are issued by the public agency in charge of tourism in Spain under the responsibility of the Ministry of Commerce and Tourism. This agency also promotes hunting abroad. This form of tourism, which is very profitable to Spain, has been developed either through the state agency or through travel agencies or other tourist businesses dealing with hunting.

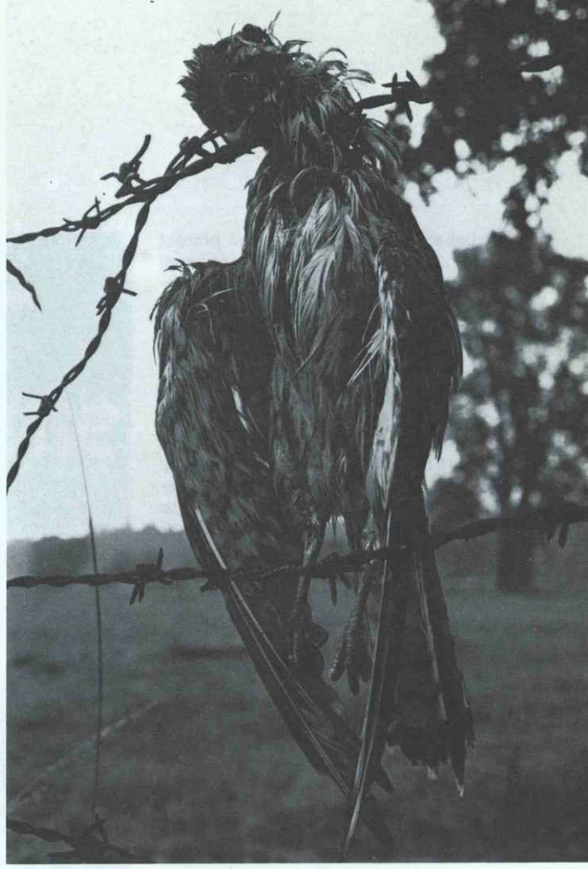
It is possible for foreigners to gain title to private game preserves as owners or tenants. Quite a few cases already exist, although the practice is not yet very common.

Once aware of the advantages of tourist hunting, Spain lost no time in opening its borders to foreign hunters. It must act cautiously, however, to keep the amount of hunting within reasonable limits, so that wildlife may flourish for the benefit of all, hunters and non-hunters alike. J. P. P.

Tetrao urogallus
(Photo Ernst Elfner – *Wild und Hund*)

Ferdinando Albanese

Hunting and the law



Falco tinnunculus (Photo Jan Oortwijn)

At a time when, because of profound ecological changes due to economic growth, industrial development and modified farming patterns, the sportsman with a gun can no longer be regarded as a predator but must be seen as a manager of wildlife, it is interesting to take a look — if only a superficial one — at the legal framework of this sport which Plato once called "a divine activity".

The question we have to ask is to what extent legislation on field sports in the Council of Europe's member states fosters the new role demanded of the field sportsman in the European ecological balance, and in what measure it meets the related requirements.

I shall therefore review, very briefly, the different systems of legislation governing field sports in Europe, focusing on two fundamental aspects: *a.* the ownership of the right to kill or take game and *b.* the conditions in which this right is exercised and any limitations to which it may be subject.

To whom do hunting rights belong?[1]

The member states of the Council of Europe can be broadly divided into three groups:

— states in which the right to kill or take game belongs to any person holding a game licence;

— states in which this right derives from a property right;

— states in which the right to kill or take game belongs in principle to the landlord, who may not, however, exercise that right but must surrender it if the area of his land is less than a legally prescribed minimum.

The first group of states comprises Italy, Greece, Portugal, Spain and Turkey.

In Italy, the right to kill or take game is a personal right in public law, so that, apart from legal constraints, the only limitation on it is the owner's right to fence his land and prohibit any form of hunting on it. Under a recent law (of 27 December 1977), the powers to regulate this matter are shared between the central government and the regions. In particular, it provides that the regional authorities may entrust game management in certain areas (up to a maximum of 30% of the total area of the region) to field sports associations consisting of sportsmen resident in the area and local landowners or tenants. The regional authorities also determine the conditions on which non-residents may be admitted to these associations.

In Greece, hunting in publicly owned preserves is carried out in accordance with a programme drawn up by the forestry authorities, on the basis of a "licence" system. Private landowners must obtain an authorisation declaring their land private hunting grounds.

In Turkey, hunting is not allowed on privately owned land except with the owner's permission in the case of game preserves, farmland or estates whose boundaries are marked. In forest areas, whether private or public, hunting is allowed only with the permission of the forestry authorities.

In Portugal, anyone who holds a game licence and card may kill or take game on any land which has not been designated a game preserve or private hunting ground. The exclusive right to kill or take game on a given land may be allotted, for a period not exceeding six years, to individual landowners or syndicates, regional game boards, field sports associations and municipal councils, with the agreement of the owners of the land. The minimum and maximum size of hunting grounds varies from one region to another from 20 ha (in the islands) to 3 000 ha. Where an area is designated as a hunting and touristic area, these limits are 1 500 and 6 000 ha respectively. For the purposes of big-game hunting, the minimum area is 2 000 ha and the maximum 10 000 ha, but private hunting grounds may in no circumstances exceed a total of 40% of the area of the region.

Similarly, in Spain, any person acquiring a game licence in the manner laid down by law is entitled to hunt. However, that right may be exercised only on land which is not subject to special regulations. These can be of different kinds, and the law provides for the following categories:

[1] Note — In the context of this article the French term "chasse" has been translated, for the sake of brevity, by the word "hunting" which should therefore be understood as also including "shooting" since "chasse" covers both.

a. national parks created to protect nature in which hunting, if allowed at all (this is the exception), is governed by regulations issued by the public authorities;

b. national game preserves so designated by reason of their great importance to game stocks; here, hunting is strictly controlled in order to protect certain endangered species;

c. game preserves in which hunting is prohibited except where exceptional authorisation is granted in order to reduce the numbers of protected animals to a level in keeping with the area's ecological capacity;

d. safety areas where hunting is prohibited for the safety of persons and the security of property;

e. controlled hunting areas, in which the right to hunt is granted exclusively to landowners, whether individually or as a syndicate ("private hunting grounds", the minimum size of which must be 250 ha for small game and 500 ha for big game) or to municipalities ("local hunting grounds", the minimum size of which must be 500 ha for small game and 1 000 ha for big game, covering at most 75% of the municipality's land), who may lease that right, through a public tender procedure, to individuals or field sports associations for a period not exceeding six years. The law also makes provision for the designation of "social hunting grounds" in which only persons of Spanish nationality may hunt. At least half the game permits issued for these areas must be issued to persons resident in them.

In the second group of states (Belgium, Denmark, France, Ireland, Netherlands, Norway, Sweden, United Kingdom), the right to hunt derives from the right of ownership. It may therefore be exercised only by the owner or a person to whom he has assigned it. In some cases it may be exercised by all and sundry provided the owner does not object. In the Netherlands and the United Kingdom, the right to kill or take game is vested in the occupier of the land, unless he holds it under a lease or agreement by which the landlord has reserved that right for his own exclusive enjoyment. In France, farmers enjoy a personal right to hunt over the land they rent.

In Belgium, however, hunting is not permitted unless the land has a continuous area equal to, or greater than, 25 or 50 ha, depending on the region (the shooting of waterfowl is permitted only if there is an unbroken stretch of water of 1 ha or more in area). The minimum area is 40 ha in the Netherlands (1 ha in the case of waterfowl). In Denmark, all Danish citizens and nationals of the other Scandinavian countries may shoot in coastal waters where reciprocal arrangements exist. In Belgium, the right to shoot on state-owned lands is awarded on the basis of a public tender procedure. The right to hunt in state-owned forests in France is likewise the subject of public tender, while on private municipal land no game may be hunted without the permission of the municipal council, which may also grant a shooting concession without having necessarily to go through the process of a public call for tenders.

In France, too, a law was passed on 10 July 1964 making it mandatory in certain districts (it being optional in others) to set up approved Communal and inter-Communal field sports associations covering all land in the Commune or in two or more bordering Communes. The rules governing each such association must provide for the admission of persons holding game licences who are either resident in the Commune or own or exercise hunting rights on land brought into the association, or are tenants of rural property in cases where the owner has assigned his hunting rights to the association. In addition, each association must stipulate a minimum number of members and accept a minimum percentage of sportsmen who do not fall within any of the above three categories.

Special legislation dating back to 1881 is in force in three districts in eastern France (Moselle, Bas-Rhin and Haut-Rhin). In these districts, while the right to hunt belongs to all landowners, it is exercised by the Commune on behalf of the landowners, being converted *ex officio* into a sum of money which is then distributed among these owners or ceded by them to the Commune. The right to hunt over each sector of the Commune is awarded for a period of nine years on the basis of a public tender procedure. However, any person owning land covering a continuous area of 25 ha or more, or lakes or ponds of at least 5 ha, or lakes designated as duck-shooting grounds, may reserve to himself the right to shoot over his own property.

This legislation is similar to that in force in the *third group of states* (Austria, Federal Republic of Germany and Luxembourg), where hunting rights, although vested in the landlord, must, if the area of the land owned is less than a legally prescribed minimum, be assigned to an association of landowners which will lease the rights.

For example, in Luxembourg, all undeveloped, rural and wooded properties within the territory of a Communal sector constitute a game district which may be divided into sections of at least 250 ha. By law, the owners constitute a syndicate, which leases the hunting rights by means of a public tender procedure, unless the syndicate decides otherwise by a majority representing at least two-thirds of the land area, or two-thirds of the persons concerned representing half the said area. The lease, which is for a period of nine years, is based on a standard contract containing some obligatory and some optional clauses. The rent is shared among the owners in proportion to the land leased.

Hare – £1 per lb (Photo Sylvain Cordier)

In the Federal Republic of Germany, legislative powers in this sphere are shared between the Federation and the *Länder*. The federal law, which dates from 1976, constitutes a framework within which the *Länder* have passed specific laws. Broadly speaking, the arrangement that results from this modern legislation is as follows. The landowner, if the area of his land is less than that laid down by law for exclusive hunting rights (75 ha continuous area in Baden-Württemberg, the Saar and Bremen, 100 ha in Hesse, 81 775 ha in lowland areas and 300 ha in the mountains in the case of Bavaria, 250 ha per two owners in Lower Saxony, 300 ha per two owners in North Rhine-Westphalia and Hamburg), must offer his land to an association of owners, who may either exercise the hunting rights themselves (provided the maximum number of hunters laid down by law is not exceeded) or lease them to one of the owners, or else lease them to a third party directly or through the intermediary of the municipality. Federal legislation stipulates the minimum size of the collective hunting ground (250 ha), but *Land* legislation may prescribe a larger area.

In Austria, each Province in the Federation has powers to regulate hunting rights. There is, however, a large measure of uniformity as between the different systems of provincial legislation. For our present purpose, therefore, we shall consider one of the most recent systems of law, that of the Province of Salzburg, which dates from 18 October 1977. The pattern to which it has given rise is similar to that in the Federal Republic of Germany (though the minimum area for which the owner many claim exclusive hunting rights is 115 ha).

Switzerland presents a different picture: under the federal act of 1925, responsibility for regulating the exercise of hunting rights (leasing or licence-system) lies with the cantons. For example, the system adopted by the cantons of Neuchâtel, Berne and Vaud is the licence system, while a leasing arrangement has been preferred in other cantons. The canton of Geneva has banned all hunting in its territory.

Conditions governing the exercise of hunting rights

In all Council of Europe member states there is legislation empowering the public authorities (though these powers are sometimes shared between central and local government) to issue regulations governing:

— open and close seasons;

— the different species which may or may not be taken;

— the forms of hunting and arms permitted;

— the issue of game licences.

All these measures to safeguard game stocks are "traditional", so to speak, and hardly require discussion in this context.

It will be more interesting to consider certain of the provisions of some legislative systems on:

i. the examination for the game licence;

ii. limitations on the number of days' hunting;

iii. limitations on the number of persons permitted to hunt in a given area;

iv. limitations on the number of animals that may be taken.

In a great many countries (Austria, Belgium, Denmark, Federal Republic of Germany, France, Italy, Luxembourg, Norway, Spain) an examination has to be passed before a game licence is issued. In Norway, an examination is required only for big game. There are two types of examination in Belgium: one for A-group game licences (small game) and one for B-group game licences (big game). Both examinations must be passed in order to obtain a C-group game licence (all game species).

Only in Italy are there restrictions on the number of days' shooting, the limit being three days per week. The regional authorities may stipulate those days *ex officio* or leave hunters themselves to choose. In any case, hunting is forbidden throughout the country on Tuesdays and Thursdays.

Limits on the numbers of field sportsmen in any given area are provided for under some systems of legislation.

In Greece, the forestry authorities lay down the number of persons permitted to hunt each day in state-owned game reserves. Similarly, the number of guns is specified in private reserve authorisations.

In the Federal Republic of Germany and Austria, the number of persons who hold hunting rights in a given area is laid down by *Land* legislation. For example, Baden-Württemberg legislation stipulates that where the area is not exclusive to one individual (i.e. does not belong to a single landowner), the permitted number of holders of hunting rights is two for an area of less than 300 ha plus one additional person per 150 ha. Although the law does not limit the number of guests, local hunting authorities may restrict the issue of game licences or even prohibit it altogether in the interest of maintaining game stocks or on grounds of public safety.

In the three eastern districts of France governed by local laws, the membership of field sports associations is limited to five persons up to 400 ha plus one further member per additional 100 ha.

Several states also place limitations on the number of animals that may be taken.

Only Italy, Portugal and Greece appear to place such limits on small game.

In Greece, the number of animals that may be shot per day in public and private preserves is laid down by the administrative authorities. In Portugal, the rules for implementation of the 1967 Act forbid the shooting, in any one season, of a number of partridges greater than the number of hectares covered by the shoot. In Italy it is the regional authorities that decide on the numbers of animals permitted per day's shooting. In Calabria, for instance, three head of non-migrant and ten head of migrant game are allowed; in Latium, two head of non-migrant species, including only one hare, one partridge or one boar, and ten head of migrant species; in Lombardy two head of non-migrant species and ten head of migrant game.

Apart from these states, there are others (Austria, some districts of France, Federal Republic of Germany, Norway, Sweden) which place limits on big game. The authorities approve hunting plans specifying the numbers of animals to be shot in a given hunting area. These plans, in Ger-

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many, Austria and increasingly France, are not only quantitative but also qualitative, in terms of the age and sex of the animals. They are submitted by the persons exercising shooting rights for approval by the appropriate authorities. In Norway, the local game authorities give permission for a certain number of animals to be shot, depending on the area of the land (as a general rule, between 500 and 1 000 ha per head of elk and 1 000 ha per head of deer). Big-game hunting is prohibited in the Netherlands.

Concluding remarks

As is clear from the above, notwithstanding the diversity of systems of law governing hunting, there are a number of common concerns which constitute the backdrop to the legislative solutions adopted.

All the systems of law considered, even in the states where every licence-holder has the right to hunt, endeavour to "match" hunting pressures (especially by the culling of game and limiting the number of guns) to the area's ecological capacity.

This aim is fully achieved by the most recent systems of legislation, which indicate unequivocally that the responsibility of the persons with hunting rights over a given territory is to act as a "regulator" of wildlife in the absence of natural predators.

For example, Section 1 of the Federal German law, Section 2 of the law in force in the Province of Salzburg, and Section 19 of the Netherlands law require the holder of hunting rights to maintain or establish, as appropriate, game stocks in keeping with the ecological potential of the area entrusted to him, while respecting the requirements of farming.

These systems of legislation establish what might be termed "sportsman responsibility" by granting exclusive hunting rights over a specific territory to a sportsman or a specified and limited number of sportsmen.

Big-game hunting plans, and in some cases even plans for certain species of small game (e.g. wood grouse), to the extent that they are submitted by the holder of the hunting rights and indicate not only the number but also the age and sex of the animals to be taken, are a logical outcome and essential reflection of this role of "responsible manager" which the sportsman is increasingly called upon to play in present-day society.

Some legal systems draw another logical consequence from this principle of responsibility by encouraging the granting of hunting rights to people who are really in a position to manage game resources, not merely by reason of their knowledge but also because they are personally present in the areas under their control.

Thus Section 5 of the Luxembourg law on the leasing of hunting rights and compensation for damage caused by game animals stipulates that syndicates of landowners must grant hunting rights preferentially to one of the last three applicants of Luxembourg nationality or of foreign nationality if resident in the country for ten years. Only if there are no applicants in these two categories may hunting rights be leased to non-resident foreigners.

In some German municipalities, the terms of hunting contracts stipulate that the holder of hunting rights must live in the vicinity of the shoot (the maximum distance generally being 100 km).

This preoccupation also seems to underlie the French legislation on approved Communal and inter-Communal field sports associations, certain regional Italian laws which insist that the majority of members of associations which may be granted exclusive hunting rights in a given area must be residents, and the Spanish legislation on "social hunting".

In my view, a system derived from these principles would make a powerful contribution to the renewal of field sports legislation and its adaptation to the ecological circumstances of our countries today.

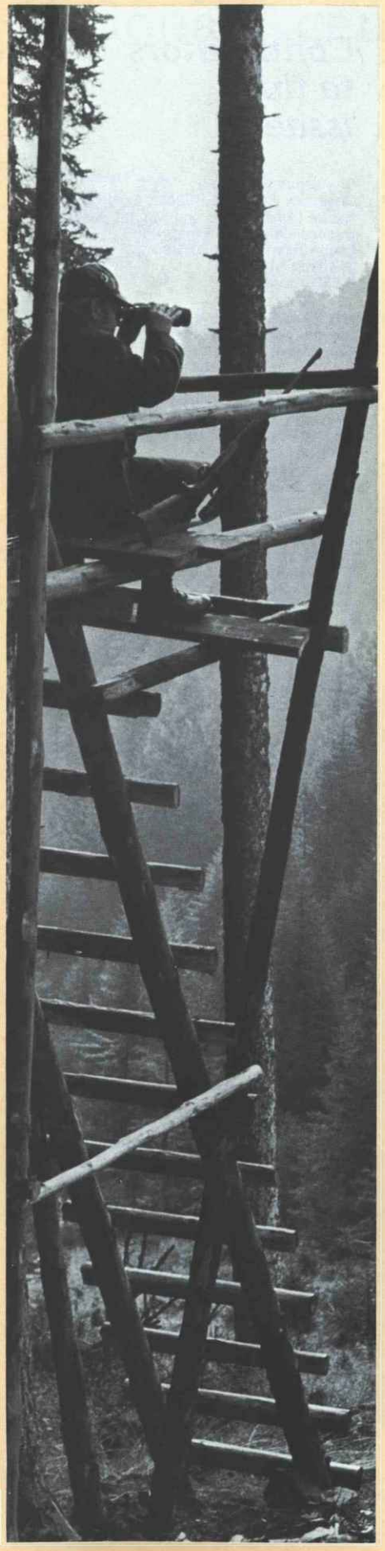
Unless "sportsman responsibility" can be inculcated, all the other approaches, such as very short seasons, limits on the number of days' hunting, limits on the number of game animals taken each day, constitution of game stocks and so forth, are likely to be nothing more than palliatives, since they are difficult to supervise in practice.

A very tricky problem of "selection" of sportsmen would of course then arise, but there is no shortage of criteria to ensure that selection is based on the sportsman's knowledge, enthusiasm and sense of responsibility and not on financial considerations.

Courageous choices are needed if the three interests at stake — those of nature conservation, farming and sport — are to be reconciled. It is to be hoped that the present "ecological awakening" will help to generate a public awareness of the value of field sports as "nature management" and will work in favour of a legislative framework conducive to that approach.

F.A.

(Photo Alfons Rautenstrauch)



(Photo Jean-Claude Chantelat)

The hunter as conservationist

Iohann G. van Maasdijk

"No game, no hunting" may seem a reasonably logical proposition. However, having managed the affairs of the International Hunting Council in various capacities for thirty years, I feel that "no hunting, no game" is equally accurate.

It goes without saying that by "hunting" I mean carefully controlled and regulated hunting, and by "hunter" a disciplined hunter.

Man, particularly as a result of the population explosion and its impact on nature (expansion of towns and villages, spread of traffic, use of pesticides, pollution of water, growth of tourism, etc.), has severely damaged his natural environment. It is thus up to man and to him alone to check this dangerous trend, both by safeguarding what is left of the natural heritage and by trying to restore it wherever this still seems possible.

In 1970, the Council of Europe took the admirable step of organising the "European Conservation Year" and bringing representatives of the various governments together in Strasbourg to confront them with the dangers threatening the natural environment. It was only after this widely publicised conference that the eyes of the public at large were opened to the irresponsible and careless way in which the riches of nature were being squandered, even though they are essential to the survival of man and all other species. It was also after 1970 that governments considerably stepped up their nature conservation efforts, at both national and international level; and these efforts included the wildlife conservation measures which concern us here.

What role can hunters play?

Appreciating the dangers to wildlife as a result of the destruction of biotopes and habitats, governments as well as national and international conservation associations are establishing more and more reserves where the various species can feed, rest and breed. Although these reserves are often fairly extensive, they together account for only a small part of our planet's "open countryside", and it is elsewhere that hunters can help to conserve wildlife.

It would be mistaken to suppose that "a good bag" is the only thing which interests hunters. On the contrary, they are first and foremost interested in nature conservation, since wildlife cannot survive without habitats and biotopes suited to its needs. They not only do everything in their power to preserve the environment needed by game (which also supports other forms of wildlife), but also help to preserve a balance of fauna, for example by limiting the number of carnivores and predators wherever they have become too numerous and by limiting species which do excessive damage in fields or forests. Similarly, in game preserves, strictly protected species enjoy a measure of supervision they lack elsewhere.

I appreciate that many people dislike and are even bitterly opposed to hunting, regarding it as cruel or "unworthy" of man. I nevertheless find myself wondering sometimes why these same people are not equally vehement in their denunciation of fishing. Are they, perhaps, reluctant to oppose a sport which is so popular and so widely practised? In any case, it is regrettable that most of those who engage in anti-hunting propaganda should close their eyes to the contribution which well regulated and supervised hunting can make to wildlife protection and nature conservation.

If there were no more hunters or gamekeepers, who would: feed game in times of shortage; keep a watch on breeding and resting grounds; combat poaching; control species which had become too numerous or were causing too much damage; reintroduce vanished or disappearing species?

These are only a few examples of how properly managed hunting grounds can contribute to conservation.

It has already been suggested that all these functions could be performed by "state gamekeepers", i.e. civil servants. However, if one thinks of the enormous cost of maintaining a single game preserve, one may well wonder whether any country which had abolished all "private" hunting could provide the sums needed to pay gamekeepers and meet all the other costs of supervising hunting and wildlife.

Admittedly, such countries do exist, namely the socialist countries of Eastern Europe, where game is plentiful and hunting is well organised and run by the state, which derives considerable revenue from it, including the hunting fees paid by foreign tourists. Whether private or state-run, hunting is bound to continue, since it is essential to the maintenance of a balance in nature and wildlife for the benefit of future generations.

The hunter as conservationist

Hunting — a pastime, but also a necessity

For hunters, hunting is a pleasant pastime which brings them directly into contact with nature. It is a passion inspired by a desire to participate actively in the processes of nature as well as inherited (unconsciously perhaps) from our remote ancestors, who hunted for food and clothing and in self-defence against the more dangerous species. It is for this reason that I prefer not to think of hunting as a "sport" — a word which tends to suggest games and competitions.

I have already mentioned the duties of hunters. As for their rights, they include carrying out the annual cull, but without endangering the maintenance of the stock. If a particular species has become too great in number for a given biotope or habitat, or is doing too much damage in fields or forests, its numbers must be reduced. If, on the other hand, a species is declining for some reason (e.g. because of climatic conditions), protective measures (such as prohibition of sales, extension of the closed season or banning of hunting) must be taken to allow the species to breed up to whatever level is considered acceptable in relation to the biotopes or habitats available and the damage it is liable to cause.

All this requires almost continuous supervision, which in many cases may even go beyond national frontiers. With this aim in view, three international texts on the conservation and supervision of wildlife have recently been prepared, viz. a European Community directive on bird conservation, a Council of Europe convention on fauna and flora and an international draft convention on the conservation of migratory species of wild fauna. Each of these conventions includes several paragraphs on hunting, regarded as necessary (or unavoidable) for the conservation of game.

At the meetings of experts convened for preparing these conventions, which were attended by representatives of the anti-hunting lobby, I fairly often heard pleas in favour of hunting. It was argued that, in places where hunting was well regulated, wildlife, both game and other species, was better protected than in those where hunting was prohibited or not practised. Mention was even made of two African states in which, several years after the introduction of a ban on hunting, game stocks are declining to an alarming extent as a result of poaching. The same thing happened to tigers in India. Once the maharajahs had lost their exclusive hunting rights, poachers, encouraged by skin-merchants, reduced the tiger population to such an extent that the government — at the well-intentioned urging of an international organisation — strictly banned the hunting of tigers. However, because of a lack of money for the necessary supervision, poaching continued and the future of the Indian tiger is still in jeopardy.

At the outset, I said that the hunter must be disciplined. This does not just mean that he must have a hunting licence. He must, above all, be imbued with a deep respect for nature and, if such a sentiment is beyond him, he must scrupulously obey the hunting and nature conservation laws in force in his country. State authorities must ensure that these laws are observed, and this can be done only if offences are severely punished. Education of the public, particularly young people, and judicious, well-documented publicity could help to preserve our natural heritage.

I. G. van M.

Salt-lick
(Photo Jean-Claude Chantelat)

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(Photo Gilles Jordan)

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