

INAUGURAL ADDRESS

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Mr Chairman, ladies and gentlemen,

Where the setting of your symposium happens to be the oldest, largest and richest National Park in southern Africa, I would ask you to spare a thought during your deliberations over the next few days for the conservation status in your respective countries of the various lower vertebrate species which you are at present studying.

It has taken some 150 million years of palaeontological disasters to reduce the immense diversity of reptilian life to a few meagre orders. But it has taken man only a few hundred years of indiscriminate slaughter to bring many survivors to the brink of complete extinction. Belatedly, in some areas of the world, conservationists are now studying ways to save these relics of the distant past.

Looking at the fate of so many fantastic creatures that have become extinct in the doomed landscape of other countries during the last decade or two, and comparing the situation with what can still be found in South Africa today of its endemic reptile, frog and fish faunas, one comes to the conclusion that we are still in a very fortunate position.

The situation is not one of complacency, however, and much remains to be done to save parts of our primitive earth for the benefit of future generations of mankind.

Species and landscapes must be kept because it pleases people to contemplate them, whatever their present or potential use to man, and because more enlightened generations of future times will be appalled if we irresponsibly erase them from this earth. Not to face this fact is the great weakness in the outlook of wilderness preservation today.

It will take resolute conservationists to defend abstract values in the place of material progress, and to hold portions of land in the face of civilization pressures for the protection of lower creatures, particularly the unloved, legless snake.

It is true that large mammals, in view of their intrinsic value as food and quarry to satisfy the hunting instincts of man, are the most vulnerable of our natural resources. The sad fate of the quagga, the bloubok and the Cape lion in this country is ample testimony thereof. On the other hand, it is well to remember that during modern conservation-conscious times we have also lost the Drakensberg minnow, *Oreodaimon quathlambae* and the Western Cape sub-species of the mountain tortoise and that the conservation status of many lizards and snakes, such as the Cape puffadder, is precarious indeed.

Whereas the majority of the larger and more important national parks and nature reserves in southern Africa have been set aside primarily for the protection of their particular mammalian inhabitants it is fortunate indeed that many of these areas are of considerable magnitude and also afford adequate sanctuary to a host of lower vertebrate forms. In this respect it is interesting and reassuring to know that of the some 95 species and sub-species of freshwater fishes in the waters of the Republic of South Africa 45 are protected within the boundaries of the Kruger National

Park. A further 14 species may be found in the waters of the other national parks in South Africa and at least seven more within the boundaries of the larger provincial nature reserves and national lands under the control and protection of the Department of Forestry.

On the negative side, there are about 29 species which are, at present, poorly or entirely unprotected in South African inland waters.

In this respect the most urgent need for the proper conservation of these threatened species is for a conservation area within the catchment area of the Olifants River in the Western Cape – the waters of which contain no less than six endemic species. Other conservation areas are needed in the headwaters of the Limpopo in the northern and north-western Transvaal, some of the coastal rivers of the Eastern Cape, the headwaters of the Incomati and Olifants system and the Tongaland flood plains.

Some of the South African endemic minnow species are of very localized distribution and inhabit only favourable portions of the headwaters of some streams. The indiscriminate stocking of such waters by the provincial authorities with exotic carnivorous species such as trout and black bass for the benefit of the angling fraternity, can lead very rapidly to the extinction of these very vulnerable small minnows, and they will suffer the same fate as the Drakensberg minnow, unless their respective habitats are protected from all forms of pollution. Adequate cognizance should also be taken of the migratory habits of freshwater fish, such as the large-mouthed yellowfish of the Orange River system, during the planning and construction of physical barriers across their routes of migration.

The situation with regard to the protected status of South Africa's reptile and amphibian life is not more reassuring than is the case with the freshwater fishes and in some instances it is more precarious. Of the 93 species and sub-species of frogs in this country 78 species are adequately protected in national parks and nature or forest reserves. In our national parks system about 53 species are protected, of which 33 are found in the Kruger National Park alone. At present only about 15 species of frogs are not adequately protected in South Africa. This is a far cry from the situation in some highly industrialized and agriculturally developed countries such as Holland, where artificial ponds are built in the state forests to serve as the last refuge for their ever-dwindling numbers of frogs and salamanders. The large number of provincial nature reserves in Natal and the state forest reserves in Natal and the Cape Province serve as valuable sanctuaries for a large number of frog species with a very limited range of distribution such as species of *Breviceps*, *Heleophryne* and *Anhydrophryne*. Very few of these rare and interesting forms are protected on a national basis, however, and in view of the extreme vulnerability of their aquatic habitats to pollution and the pressures of modern civilization, the conservation status of these frogs is not all that can be desired.

Of the 103 odd species and sub-species of snakes in South Africa 73 species are adequately protected within national parks or in provincial nature or state forest reserves of some consequence. The Kruger National Park alone affords sanctuary to no less than 48 species – almost half of the total number of species within the Republic. Some of the 30 species of snakes which are not adequately protected in South Africa are of very localized distribution and rare occurrence. In this respect the various snake parks in South Africa and the National Zoological Gardens can play an important role in collecting live specimens from the general public and making them available for release in protected areas of adequate status within their respective chosen ranges of

distribution.

As is the case with the lizards and frogs the most acute requirements for the protection of a representative series of South Africa's snake fauna is for conservation areas along the Western Cape coastal belt, in Little Namaqualand, the North-Western Transvaal (Waterberg range), the Tongaland coastal plains and the montane ecosystems of Natal, Eastern Cape, South-Western Cape and the Cape Peninsula.

Only about 140 of South Africa's approximately 218 species and sub-species of lizards are adequately protected in national parks and nature or forest reserves. Of these, 50 species occur in the Kruger National Park and a further 70 in the other national parks. At least 79 species are at present poorly or completely unprotected in this country. Some of these are of extremely localized distribution and are only known, in some instances, from the type localities. In this respect it could be of great value if the various provincial conservation departments publicized the fact amongst private landowners that their farms constituted the only known habitat of a particular lizard species and encouraged the owners to have their land proclaimed as private nature reserves.

Of the 16 species and sub-species of tortoises and terrapins in South Africa only nine species are properly protected in our various conservation areas. Of the seven species which are not adequately protected, one species, i.e. *Testudo (Geochelone) pardalis pardalis* (Bell), has already become extinct within its former range in the Western Cape coastal areas and Little Namaqualand. It is still to be found north of the Orange River in South West Africa, however, and should be reintroduced into a suitable conservation area in Little Namaqualand.

Marine turtles are reptiles of particular economic importance to man as a primary source of food. Five species of these valuable animals visit South African coastal waters. Despite the fact that the status of marine turtles is causing international concern today, the two species of turtles that have chosen nesting sites along the shores of the Tongaland coast, i.e. the loggerhead turtle (*Caretta caretta*) and the leatherback turtle (*Dermochelys coriacea*), have not yet been given protection on a national basis.

This places South Africa a step behind such countries as the United States of America, Australia and France who have already proclaimed marine reserves for the turtles nesting along their shores or the shores of their island possessions.

Despite the fact that they were at one stage mercilessly hunted for commercial purposes, crocodiles are now adequately protected in South Africa in the Kruger National Park and a number of Natal's provincial nature reserves.

In retrospect it is evident that in the true context of threatened species, such as defined in the IUCN red book, i.e. those in immediate danger of becoming extinct, there are probably not many species of reptiles, amphibia and freshwater fishes in southern Africa today which could be placed in this category. On the other hand, there are many species which, by the very restricted and local nature of their range of distribution, or the close proximity thereof to rapidly developing areas or urban complexes, are seriously threatened by abuse or pollution of their respective habitats in the immediate future.

Timely provision should be made to identify these taxa as well as the true limits of their range of distribution. In all such instances where the natural habitats of these species are threatened by gross change or degradation due to the influence of man or other factors, adequate steps

should be taken to provide sanctuaries for these forms. Here we in South Africa should follow the lead of some European countries, the United States of America, Australia, Ecuador and New Zealand, who have set aside special reserves for the protection, even on a limited scale, not only of their large mammals and birds but also of their rare and irreplaceable lower vertebrate forms. Populations which are particularly sensitive to habitat destruction and pollution, such as frogs and those freshwater fishes inhabiting catchment areas, should be given priority in this respect.

In some instances a species may at present be classified as rare in view of its fossorial habits and subterranean mode of life. These species are rarely seen above the surface and some may consequently be much more common and wide-spread than the existing locality records appear to suggest. Until such time as this can be established by definite surveys in their chosen range of habitats the majority of these burrowing forms must remain classified as rare.

Species that are rare within the territorial limits of South Africa, but more common beyond these limits, should nevertheless be afforded adequate protection in this country. We have no control over the protection of these marginal species outside our boundaries and those which occur sparsely within our boundaries should be given the same strict protection as if they were rare endemics.

Positive legislation should be instituted as soon as possible on national and provincial level to provide for the strict legal protection of all those species of reptiles, amphibia and freshwater fishes which are classified as rare or endangered. Legislation should not only provide for heavy penalties to guard against the destruction of these rare or endangered species, but should also impose a total ban on the capture and export of such species for commercial purposes. This is particularly true in the case of tortoises, some lizards such as chamaeleons and 'ouvolk', snakes such as pythons and certain species of frogs and freshwater fishes. On the other hand, provision can be made for the keeping in captivity of certain more common species of reptiles, frogs and fishes for educational purposes or as pets, provided certain standards are met with regard to the adequacy of the cages or enclosures, feeding and care of such animals. Wherever possible these captive animals should be made available from captive-bred animals kept by recognized institutions, and the capture of all species of free-roaming wild animals on national lands should be actively discouraged, unless undertaken by the conservation authority for an authorized purpose.

Legislative measures alone will not be adequate, however, to ensure the conservation and survival of such animals as reptiles and amphibia. There are still too many old and deep-rooted superstitions and taboos regarding the toxic and aggressive nature of harmless snakes, lizards (such as geckos and agamas), chamaeleons and toads which persist at many levels (both black and white) of our population, to promote conservation-mindedness. Legislative measures should therefore be supported by active educational programmes on the widest possible scale to inform the public not only of the value and harmlessness, but also of the right to survive of these creatures, and to instill in them a sense of appreciation of their aesthetic beauty. The South African television service's wildlife programmes can be of tremendous value in this respect.

If the world is allowed to go on the way it does it will one day be a world without reptiles, frogs or freshwater fishes. Some people will accept this calmly but for many it is a dreadful prospect. These creatures are a part of the old wilderness of earth – the environment in which man himself evolved and became human. If we let these creatures disappear it is a sign that we are ready to let all wilderness perish. When that happens we shall no longer be exactly human.

As Dr Archie Carr so aptly points out, one of the awesome enigmas of today is how to slow the ruin of the natural earth while our mindless breeding continues. The ironic fact is that human population control is probably not far off. When this is clearly seen and the juggernaut of human reproduction is slowed down it will be because thoughtful people have taken charge; and these people will look about for what has been left of the old values. One of these values is what the human spirit derives from wilderness, from all kinds of wild original landscapes and creatures. Let us be certain in South Africa that what we keep of the old earth will be enough to save viable populations of our rich array of lower life forms as well as our honour with our descendants.