Water for the Animals — Some Unexpected Results

INCREASING the water supplies for wildlife is a form of management often used in national parks, either to save animals in times of drought or to keep up or increase their numbers. But it can be a two-edged weapon. Two scientists in Rhodesia who have been studying the matter in Wankie National Park, Edward Davison and Gerald Davison, suggest in the September issue of *Rhodesia Science News* that the effects of this practice on all species need to be carefully looked at.

In the dry areas of the Kalahari new boreholes, which supply water throughout the year, have resulted in a spectacular increase in the numbers of some species, and have also provided the more mobile animals with new reserves of food that were formerly untouched because of the lack of adjacent water. In the hilly areas of north-east Rhodesia the building of dams has ruled out the danger of many animals dying in future periods of drought, and thus eliminated what was probably a very important natural periodic 'culling' process.

The authors divide the larger animals of the park into three main groups: those dependent on water – the grazing ruminants to whom water is essential for digestion (elephant, buffalo, roan, sable, zebra, wildebeest, lion and wild dog); the semi-dependent – those that can exist for long periods without water if necessary (giraffe, kudu, eland, impala, warthog, leopard and hyaena); and the non-dependent – seldom using water within their home range (gemsbok, duiker, rodents).

Obviously the provision of extra water benefits the first group most and the third group least, but even within the first group the benefit varies, being greater for those able to cover great distances, because the amount of food available to them (with water adjacent) is increased. In Wankie this has meant particularly the elephant and the buffalo. To the less mobile (the wildebeest) the benefit is short-lived because they stay in one place and the food gives out; moreover, if the place is visited by the more mobile elephants and buffaloes, the food gives out sooner and the situation is aggravated. The tall rank grasses, which are all that is likely to remain in the wake of a buffalo herd, are no good to roan, sable and white rhino. So the short-term benefit is followed by increasingly harsh selection against the less mobile animals.

In the marginal areas extra water may enable other species to stay there longer with resultant stress that may force resident species out of the area and even out of existence. In Wankie this may be the cause of the apparent decline of the gemsbok, and may also be affecting the eland, which competes directly for food with the elephant.

The authors conclude that, while the extra water supplies have achieved the aim of ensuring that large numbers of game animals are available for visitors to see, the second aim of ensuring the welfare of the entire game population has not been so keenly pursued – in fact, clients before science has been the motto. Only one environmental factor has been chosen for management, and the resultant imbalances must now be repaired.