

Management must also solve the problems arising, ironically, from under-use of wildlife. The scientific training and practical experience of the wildlife biologist may enable him to effect increases in wildlife population, but as yet he has only a very limited knowledge of rational and acceptable methods of influencing men to harvest a surplus wildlife crop. As in many other fields, technology has surpassed man's progress in managing his own affairs, and created disturbing new problems. The early conservationists would indeed be disillusioned to discover that the modern wildlife scientist is as often concerned with a surplus of some species of mammal as he is with the preservation of a rare species threatened with extinction.

The dynamism of wildlife is often not appreciated. The creatures of the wild concentrate their energy on reproduction and the care and upbringing of their young. This is a tremendous force, causing many species to multiply so rapidly that the problem may easily become one of over-population and control instead of protection. Changes in habitat intensify this effect. The replacement of evergreen by deciduous forests in British Columbia benefited moose and, with plentiful food, they multiplied until their population exceeded the land's capacity to support them. Similarly beaver flourish when deciduous forests are present and decline when the evergreens become dominant.

With protection and suitable habitat, the beaver, for example, more than recovered from over-trapping and is present in numbers probably greater than at the height of the fur-trade. About 1930 Grey Owl, the great friend of the beaver, started a colony in Prince Albert National Park with two beavers, Jelly Roll and Rawhide; today the Park, which was almost empty of beaver in 1930, contains many thousands of the hard-working creatures - a population too large to be treated with indifference by park officers. Even in densely populated urban areas, beavers flourish. Within a short drive of Ottawa there are so many beaver that several farmers make a respectable part-time income from trapping for their pelts.

This ability of wildlife to recover quickly from losses and exploitation brings other problems to wildlife officers besides those of over-population. Because most wild species are not easily seen, they can multiply rapidly before their increase is detected. This necessitates careful and frequent inventories. Unlike other resources, an estimate of quantity does not last long. Inventories must be repeated frequently lest significant population changes pass unnoted.

Research is, of course, basic to any improvements in wildlife management. One relatively neglected area is the pathology and diseases of wildlife. Another is the effect of chemical control agents such as insecticides. U.S. Fish and Wildlife investigators have found that quail are unable to reproduce adequately when insecticides have been introduced in their environment; insecticides may have a more destructive effect on game birds than they are already known to have on fish. The responsibility for increased research will be that of the wildlife biologists; this handful of scientific investigators and advisers will have to be strengthened and given more public backing if they are to provide the sound factual basis for improved wildlife management programmes.