

CHAPTER VIII

WILD LIFE CONSERVATION & MANAGEMENT

Introductory—

Nature has endowed India with a magnificent asset in its rich and varied fauna. It is estimated that there are over 500 different species of mammals in the country. As for bird life, India possesses one of the richest avifauna in the world. Out of the total number of different kinds of birds known to inhabit the earth, about one-tenth occur in this country. A list of the common game animals and birds is given as Appendix "B". But for human interference, wild life (an important constituent of the natural biotic complex) could exist in a natural state of equilibrium with its environment, governed by the law of survival of the strongest and the fittest. Man, however, has been persecuting wild life for his own ends, without appreciating its value and importance in the maintenance of the balance of nature. As a result of this folly, several species of animals and birds have become either extinct or are threatened with extinction.

Significance of Wild Life in Indian Mythology—

In India, wild life has, from times immemorial, enjoyed protection through religious myths and sentiments and its preservation has been a part and parcel of our ancient traditions. '*Ahimsa Paramo Dharma*' has been a guiding principle of our way of life. The '*ashrams*' of the ancient '*Rishis*' (in which the best in our ancient culture was born) were always treated as refuges for wild life, where animals roamed about freely without any fear of molestation by man. There are significant passages in Kautilya's *Artha Shashtra*, which point to the recognition given by the statesmen in those days to wild life preservation. The need for special consideration for wild life was felt even in those early days and what we now term as 'Sanctuaries' and 'National Parks' were established. Forest Superintendents were appointed for supervision and guards posted to prevent poaching. Heavy penalties were prescribed for offenders who trapped, killed or molested deer, bison, birds or fish in an area declared as protected (*Abhayaranya*). Certain animals and birds were completely protected, e.g., elephant, horse, animals partly with human form, peacock, partridge, swan, cuckoo, fish in tanks, etc. Even animals which became vicious were to be trapped

or killed only outside the sanctuary so as not to disturb or scare the others. Extraction of timber, burning of charcoal, collection of grass, leaves and fuel, cutting of canes and bamboos and trapping for fur, skins, teeth or bones were all totally prohibited in the national parks. Relevant examples and descriptions are found in many of the ancient classics.

The Hindu Period--

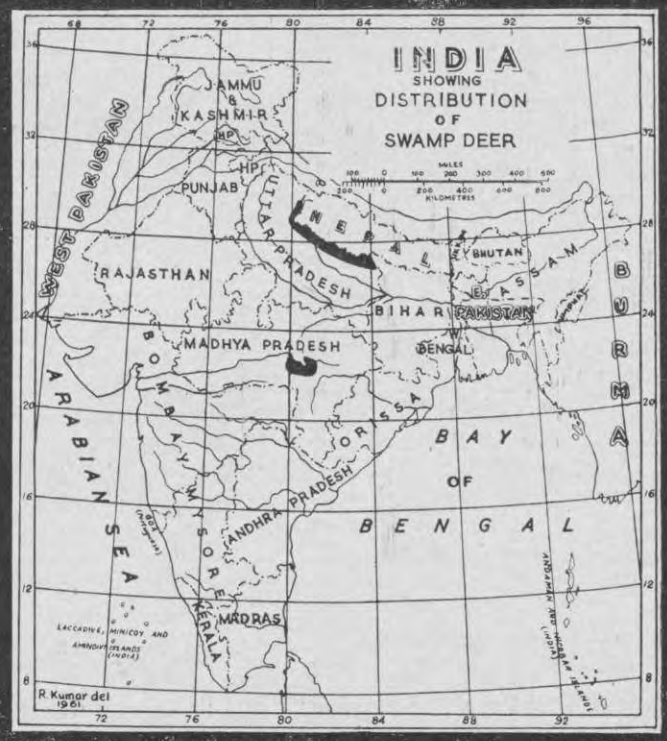
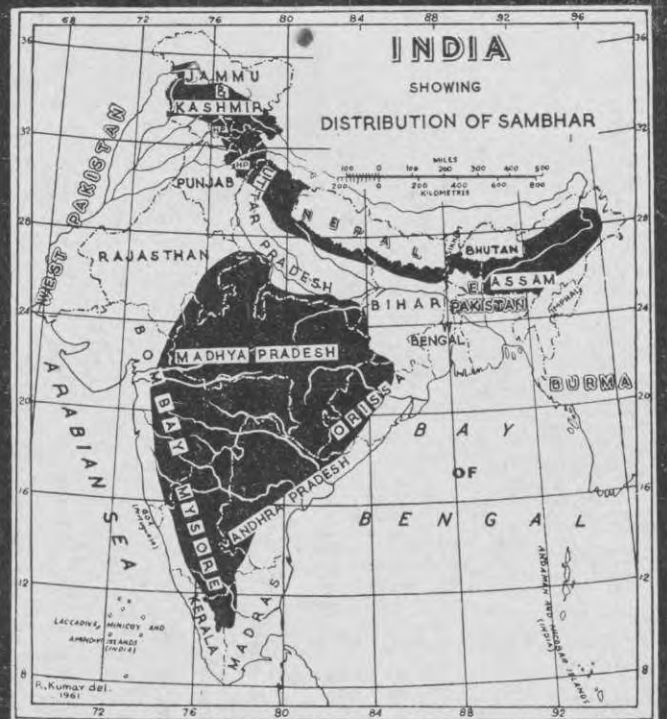
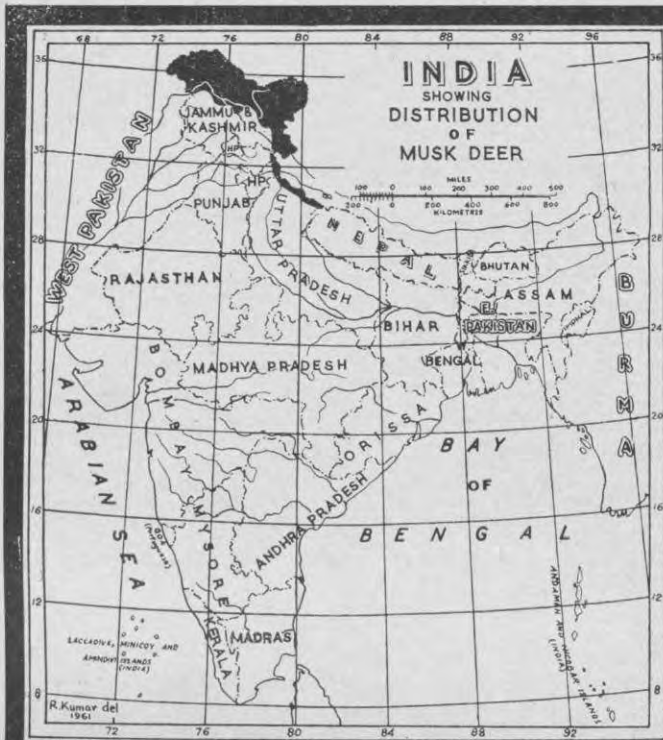
The earliest known record anywhere of measures taken for the protection of wild life comes from India, viz., the Fifth Pillar Edict of Ashoka, by which game and fishery laws were introduced in Northern India in the 3rd century B.C. In this inscription, the Emperor had carved on enduring stone a list of birds, beasts, fishes and even insects which were strictly to be preserved. The mammals named were bats, monkeys, rhinoceros, porcupines, tree squirrels, *barasingha* stags, brahminy bulls and all four-footed animals which were not utilized or eaten. Other creatures declared as inviolable were parrots, mynas, queen ants and fishes of various kinds. The Edict further ordains that forests must not be burnt, either for mischief or to destroy living creatures.

With the passage of time, the physical aspects of the country underwent many changes. The forests of Sind which provided timber for the first Indus Flotilla constructed by Alexander the Great in 325 B.C. were no longer there. Gone with them were the rhinoceros and the elephant, the tiger and the swamp deer. The other animals commonly found in the Indus valley, such as the hog deer, wolves, chinkara, wild dogs, jackals, hares, cats, hyaenas, etc., also became increasingly rare.

In the early **Jain and Buddhist** periods (600 B.C.) also, there was considerable interest in mammals, birds and reptiles; but previous to the appearance of the Moghul dynasty on the scene, there is little information available concerning the sport of *shikar*.

The Moghul Period—

Much interesting information concerning wild life is to be found in the memoirs of the Moghul emperors and the chronicles of European travellers in India in those times. The Moghul emperors



were great sportsmen and lovers of nature and were, therefore, interested in the wild life of the country and its preservation. Their writings are full of descriptions, some in great detail, of the animals, plants and flowers of the country over which they ruled. While Babar, Humayun, Akbar and Aurangzeb displayed in their writings their great love for nature, Jehangir excelled as a naturalist. His profuse memoirs make an engrossing account of the natural history of India. The *shikar* grounds of the Moghuls covered the upper valley of the Indus towards Peshawar and the whole of the present Uttar Pradesh westward of the Ganges up to Kathiawar and southwards up to Mandla in Madhya Pradesh.

Elephants, rhinoceros and wild buffaloes were known to the Moghuls, but not the bison. When the Moghuls first entered India in 1526, the rhinoceros was found along the Indus, and Emperor Babar is reported to have come across it in the plains of the Punjab. The elephant was also found in many places from where it has since vanished. At present, there are no longer any elephants northwest of the Dehra Dun Siwaliks, while the last remnants of the rhinoceros survive only in the eastern tracts of Nepal, Bengal and Assam. These latter areas and parts of Orissa and Madhya Pradesh also contain but the last remnants of the wild buffalo. Among the larger felines, lions used to be found in Northern India. In 1820, lions were found in considerable numbers in Saharanpur and North Rohilkhand. In 1830, they were seen in the Mt. Abu and Sabarmati regions. Hunting with cheetahs was a favourite pastime of the nobility in India since very early days. The Moghul emperors were very partial to this form of sport and Akbar is said to have kept as pets a thousand of these animals. The monarch's best cheetah named '*Samand Malik*' (like a ruby) rode in a 'chandel' borne on the shoulders of 2 horses. In the wild stage, the cheetah hunts antelope, gazelle, smaller deer, hares, peafowl and other smaller mammals and birds; but for sport it was trained mostly for hunting black buck. The cheetahs, which frequented rocky and open country, were found in packs, and there is record of a cavalry officer having speared from horseback as many as six in a single day. They were trapped and trained when full grown; if taken as cubs, their training was tedious and unsatisfactory. (Today there are no cheetahs in the wild state in India). The caracal (or '*siah-gosh*', as the Moghuls called it) was also easily tamed and used to be trained in the same way to kill gazelle, smaller deer, foxes, hares and peafowl.

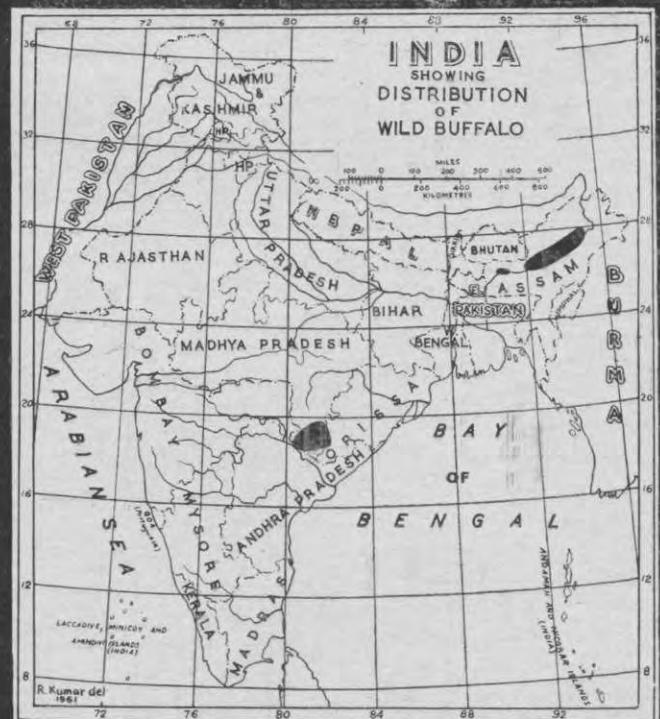
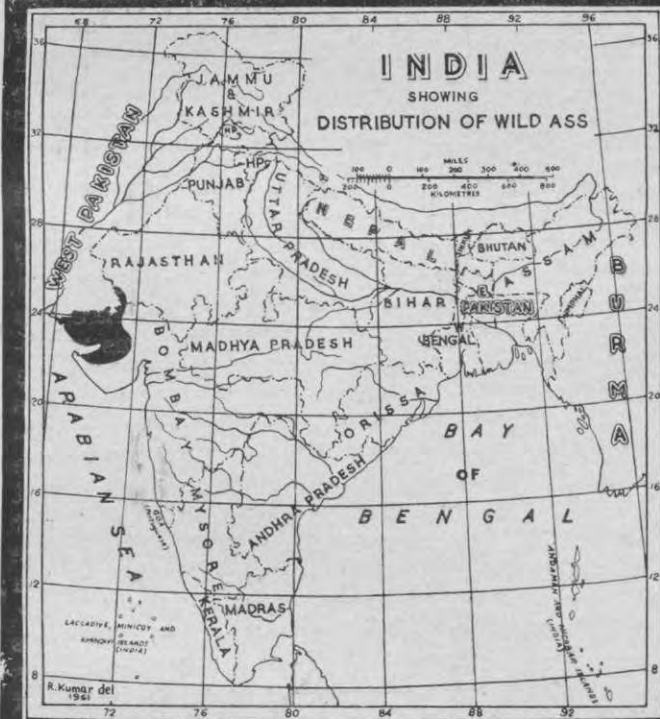
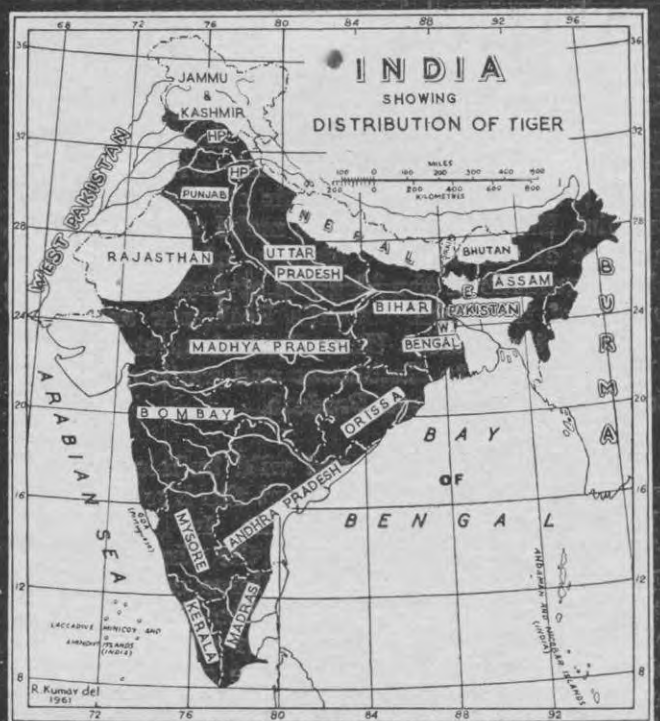
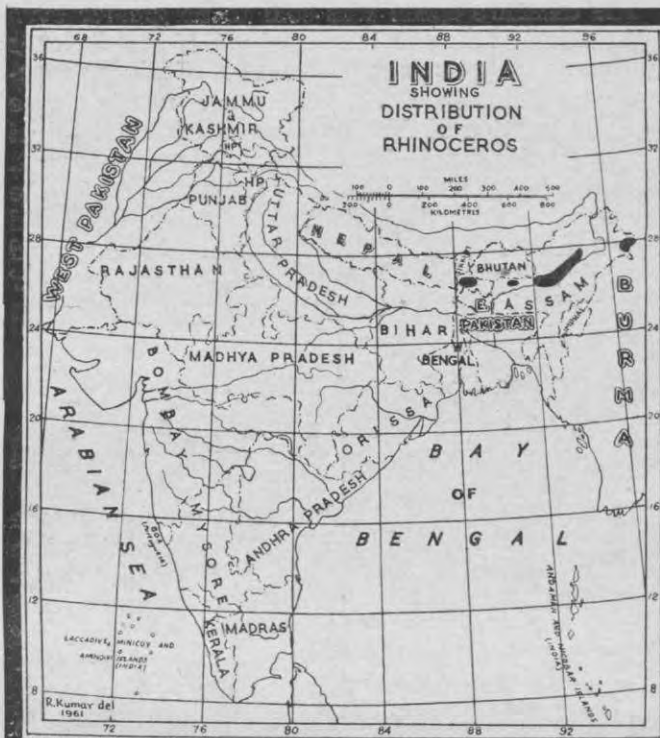
The caracal's speed was said to be greater even than that of the cheetah over the first few furlongs when chasing its prey. There is practically no mention of bears in Moghul literature, nor is there much mention of deer hunting. Black buck, *nilgai* and gazelle must have been very abundant. Another favourite sport patronized by the Moghuls in North India was falconry. It is said that Akbar hunted with trained falcons and hawks, of which his favourite was the '*bashah*' (sparrow hawk). The Moghul emperors were also fond of fishing.

The British Period and After—

The advent of British rule which followed the Moghul period, ushered in an era of comparative peace and settled conditions of life. Consequently, as the demand for land increased, the forests (the natural home of wild life) steadily diminished in extent and the frontiers of wild life receded rapidly throughout the country. Game animals and birds were quite plentiful in the early days of British rule. Thereafter, the decline which started from about the middle of the 19th century, gained further momentum with the increase in the variety of sporting weapons and equipment, and the development of the large bore rifle by Baker in 1840 and of the 'express' rifle by Forsyth in 1860. As a matter of fact, it can generally be said that the fate of wild life all over the world was sealed with the invention of gun powder.

Many of the early British army officers, civil servants and tea planters in India took heavy toll of wild life and there are instances on record to show that many of them indulged even in wanton slaughter of wild life for the mere fun of it. In Kathiawar, a cavalry officer was reported to have shot as many as 80 lions, while on one occasion 14 lions were shot in the Gir forests within 10 days. Their numbers were further depleted by large scale poaching. Ultimately the situation became so alarming that on a report in 1913 from Mr. Willinger, the then District Forest Officer, Junagadh State, that there were only 6 to 8 lions left in an area of 1,893 sq km (700 sq miles), Mr. Rendall, the Administrator, imposed a total ban on lion shooting. As a result of this timely protection, this species was saved from total extinction just in the nick of time.

In Central India, a particular British 'sportsman' shot over 500 tigers during his 21 years' stay in the country. Again, from 1850 to 1854, a railway official killed 100 tigers in Rajputana, taking advantage of the facility with which he could move



about. In 1862, another 'sportsman' bagged 10 tigers in 5 days on the Tapti river border. Owing to the increase of cultivation on the one hand and the corresponding decrease of forests on the other, the tiger population in India has been considerably reduced.

A tea planter in the Bengal *Duars* is said to have fired 100 shots at rhinos in a single day, killing 5 and wounding more than 25. The great Indian one-horned rhinoceros has been shot out by poachers practically to the verge of extinction, mainly for the sake of its highly priced horn.

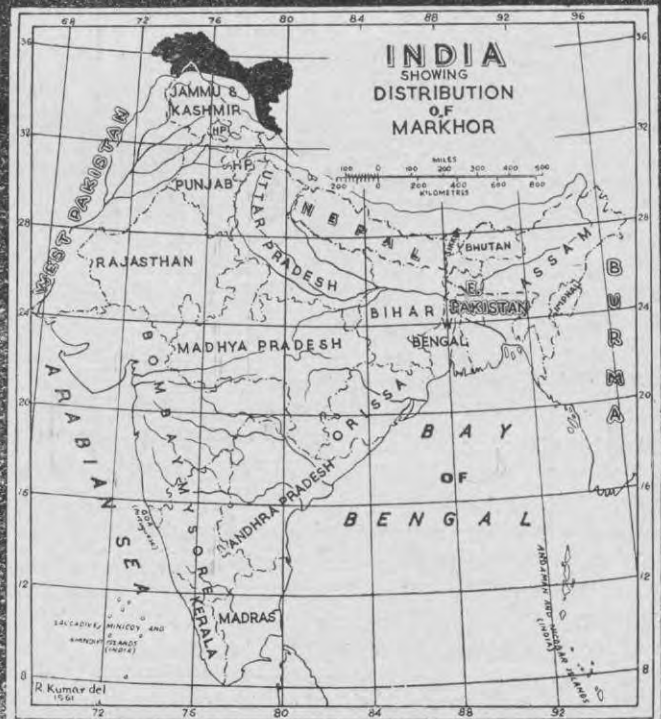
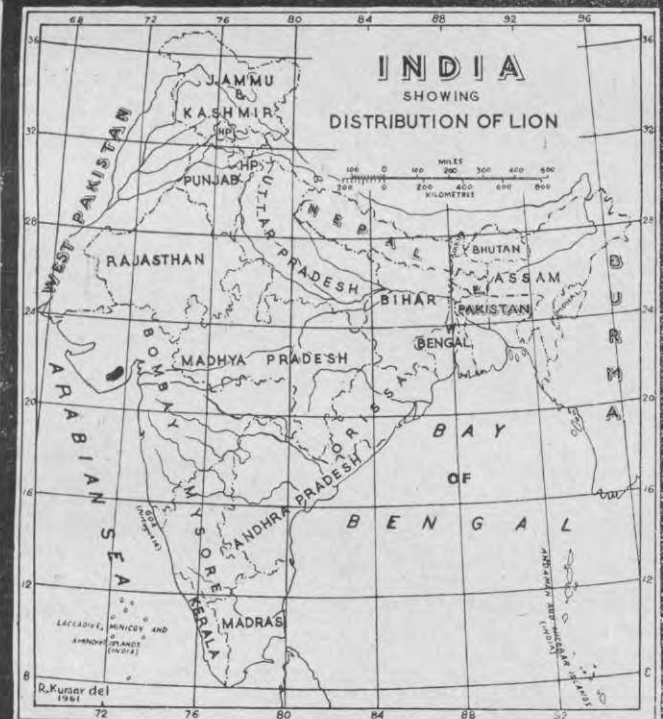
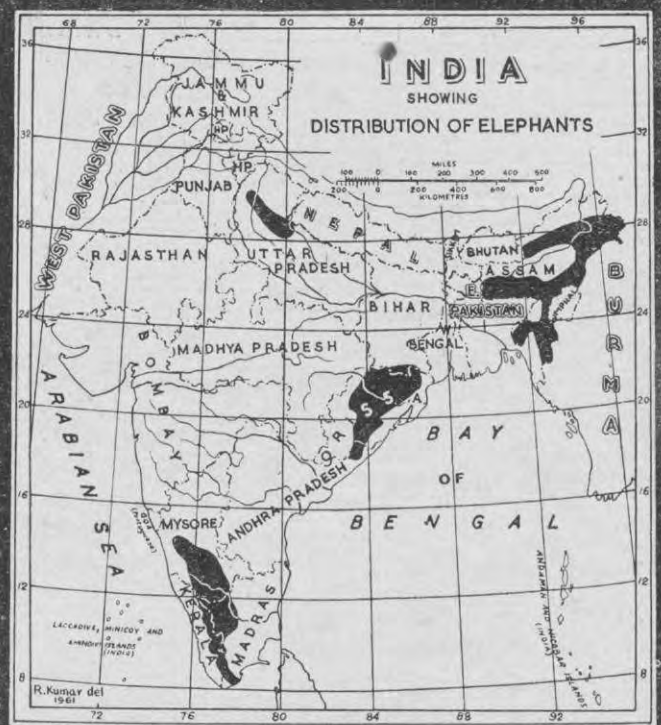
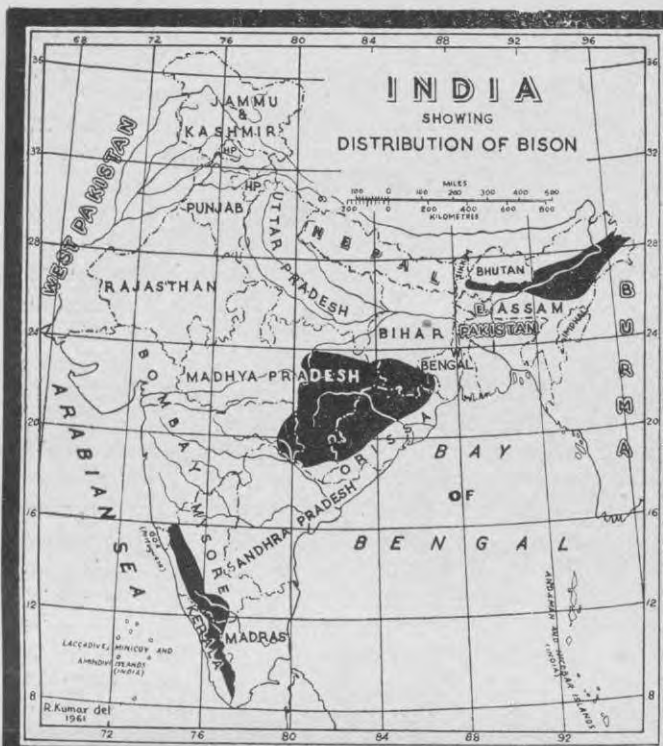
It was not long before this urge to shoot and kill wild life spread to the ruling princes and the leisured gentry in India. For example, not very long ago, in shoots organised in Cooch Behar over a comparatively short period of some 35 years, no less than 370 tigers, 208 rhinos, 430 wild buffaloes, 324 *barasingha* and innumerable other small game were bagged. One Maharajah is known to have shot 616 tigers during his life time, while another holds the record with over 1,100 tigers. In Kashmir, a single 'sportsman' accounted for 58,613 wild fowl over a period of 12 years, averaging over 4,500 birds per annum. In Bikaner, the record for the shooting of Imperial Sandgrouse at the Gajner lake was 1,100 birds with 35 guns in 2 days.

More recently, with the advent of Independence, the problem of food production assumed paramount importance. This resulted in the clearance of vast forest tracts, in some cases by mechanical means, and every inducement (by way of crop-protection gun licences) was offered for the protection of crops from the wild animals and birds regarded as vermin. Actually, under the guise of such destruction of vermin, much indiscriminate slaughter of deer and other game animals also took place. This 'grow-more-food campaign', coming as it did soon after the War years, has indeed been disastrous to wild life, and more damage resulted perhaps during the last 20-30 years than in the previous 150. All this inevitably resulted in the emergence of a new type of ruthless and unscrupulous gun-man, who showed but scanty knowledge of and respect for the codes and rules of true sportsmanship or laws of shikar. And when, in addition to these heavy odds, account is taken of the deadly potentialities of the versatile jeep fitted with blinding flashlights for hunting game by night, it is not difficult to appreciate the serious threat which wild life now faces in its desperate struggle for survival.

A comparison of the past fauna with that of the present brings out two salient features, viz., (i) that the forms of wild life existing today, not only in India but also in other parts of the world, are relatively fewer as compared with the wonderful variety of forms which existed in remote times, and (ii) that the present wild life in India comprises not only indigenous species which are found in no other country in the world, but also species which are the descendants of ancestors which have migrated into India from regions which adjoin its eastern and western borders. To quote a few concrete instances, eleven different species of elephants and mastadons existed in the Siwaliks as compared with the solitary living form that we now have. In the past, there were also six different species of rhinoceros in this country and several representatives of the wild boar, some of gigantic dimensions. The beasts of prey were also far more numerous than those existing today. Nevertheless, many forms of wild life which lived in the Tertiary era still continue to flourish in India today after millions of years, such as *langurs*, macaques, various species of felines, hyaenas, jackals, foxes, sloth bears, ratels, mole rats, porcupines, hares, rhinoceros, bison and elephants.

Most of the animals which formerly existed in the Siwaliks and the allied species now inhabiting India and Africa are believed to have been wholly or partly derived from common ancestors which may have originally migrated southward from Europe and Central Asia; these regions are believed to have at one time enjoyed an almost tropical climate and to have been inhabited by such animals as elephants, rhinoceroses, hippopotami, tapirs, antelopes, lions and tigers, as indicated by the discovery in them of the remains of these extinct animals.

As regards the migration of foreign species from the regions adjoining our eastern and western borders, many Indo-Chinese animals, not represented in the older Siwalik fauna, are believed to have migrated into India from the hill ranges of Assam and the countries farther east. The majority of them settled in the Eastern Himalayas, while others spread through or colonised parts of the Peninsula. About 70 per cent of the animals inhabiting the Himalayan forests between Kashmir and Bhutan are also found in the hill forests of Assam, Burma and South China, while some Malayan types, like the Mouse Deer and the Lorises, inhabit parts of the Peninsula. A similar stream of migration has also come from



across the western frontiers, bringing with it such species as the Indian Lion, the Indian Gazelle, and the Urial of Punjab and Kashmir.

General distribution—

The existing wild life in India is an admixture of Indian, Malayan, Ethiopian and European elements, the foreign elements naturally predominating in those parts of the country which are most suited to their habits. Thus, the Malayan forms abound in the damp, sheltered, forest-clad valleys of the Eastern Himalayas and occur again in the tropical rain forests of the Malabar coast. The fauna of Kashmir and the higher Himalayas, on the other hand, is characterised by a predominance of types similar to European fauna. Again, the animal life found in the desert tracts of Punjab and Rajasthan bears some resemblance to that of the great Palaearctic Desert which extended westwards to the shores of North Africa. The main Peninsula is regarded as the home of the true Indian fauna.

For a systematic study of the global distribution of wild life, the world has been divided into six Zoo-geographical regions or Realms, viz., (i) The Nearctic region—including North America, Canada, Iceland and Greenland; (ii) The Palaearctic region—including North Africa, Europe, and North, North-East and Central Asia; (Sometimes these two regions are combined and termed as the Holarctic region); (iii) Neotropical region—including South America and the Southern peninsula of North America; (iv) The Ethiopian region—including the lower three-fourth of Africa and Southern Arabia; (v) The Oriental region—including the Indian sub-continent and South East Asia; and (vi) The Australian region—comprising mainly Australia. In each of these regions, the fauna is more or less, homogeneous, at any rate for certain well studied classes of animals. They are, however, not rigid conceptions and their boundaries are not valid for all classes of animals. The Oriental Region which includes the Indian sub-continent, has been further divided into the following sub-regions, viz:—

(i) **The Himalayan sub-region**—This sub-region is made up of 3 distinct zones. The first covers the whole of the forested outer and lower slopes of the Himalayas from Bhutan to the eastern frontiers of Kashmir. The second includes the inner western Himalayas from Kashmir and eastern Ladakh to Chitral. The third includes the arid plateau of eastern Ladakh up to Tibet. The foot-hills and lower valleys ('Doons') of the first zone are

covered with dense tropical vegetation and are inhabited by animals such as tigers, elephants, bison, sambhar and muntjac, which are also found in the forests of the Peninsula. In the swampy forests of the *Terai* (the strip of low-lying country which adjoins the foot-hills), cheetal, hog deer and swamp deer are common. Farther north, with increase of elevation, these tropical forests gradually merge into a temperate type of vegetation. In the Eastern Himalayas, which are exposed to the full blast of the monsoon the tropical vegetation reaches a higher elevation than in the colder and drier climate of the Western Himalayas. The temperate zone is characterised by the absence of many species of animal life inhabit the Indian peninsula and by the presence of several Indo-Chinese forms which do not occur in the Peninsula but are common in the hill forests of Assam, Burma and Southern China. Racoons, hog and ferret badgers, crestless porcupines and goat-antelopes, such as the goral and the serow, are some of the typical inhabitants of these temperate forests. The Indo-Chinese element in the fauna is particularly marked in the Eastern Himalayas, but on proceeding westward, it decreases progressively until, in Kashmir, it ceases to be the principal constituent of the fauna. In the second zone referred to above, the Indo-Chinese animals of the Central and Eastern Himalayas are replaced largely by Indian species and by an infusion of forms allied to European and north Asiatic types. The most distinctive deer of this zone is the Kashmir Stag, a relative of the Red Deer of Europe. Other typical northern animals, which occur in this zone but do not extend into the Eastern Himalayas, are the Ibex and Markhor. The Urial or Shapu extends westward through the Punjab, Kashmir, Baluchistan and Afghanistan to the Persian hill ranges. The third zone referred to above is a wind-swept region of high elevation, scanty rainfall and intense cold and is the only part of the globe where desert and arctic conditions prevail. The Arctic Horse, the Great Tibetan Sheep, the Bharal and the Yak are the typical inhabitants of the cold, desolate and barren mountains of this zone.

The huge mass of the lofty Himalayas obviously acts as a great barrier to the free migration of animals. This obstacle, combined with the great difference in climate to the north and south of the range, has resulted in a fairly sharp line of demarcation between the Oriental fauna to the south and the Palaearctic fauna to the north. The bare peaks above the tree line and the strip

of luscious meadows lying between the mountains and the arid plateau of Tibet is thus a transitional zone which serves as a meeting ground for the animal life of the Oriental Region and that of the Palae-arctic Region.

(ii) The Indian Peninsular sub-region—This comprises India proper, extending from the base of the Himalayas to Cape Comorin, excluding the Malabar Coast.

The northern part of this sub-region comprises the alluvial plains of the Indus, the Ganges and the Brahmaputra rivers and their tributaries. This immense tract of level land separates the main Indian Peninsula from the Himalayas. In this zone, known as the Gangetic Plain, the rainfall is moderate and the winter temperature is low but not severe.

In the north-western portion of this plain, the vegetation gradually merges into that of the adjoining desert zone. In this area live many desert forms such as the desert cat, the desert fox, the desert hare, etc., which are colonists from the desert zone. These desert forms disappear eastward in the more humid parts of the Gangetic Plain. Another feature of the dry zone of the Gangetic Plain is the presence of large herds of antelopes and gazelle. In the humid plains of Bengal, the semi-desert vegetation of the northern plain gives places to luxuriant groves of mangoes, figs and palms, resembling those occurring in the moist coastal tracts of the Peninsula and supporting a similar type of fauna. Farther east, at the mouth of the Ganges, the great plain is transformed into a wilderness of swamp and forests—the Sunderbans—which is a region of grassy savannahs and muddy islets covered with mangroves and allied dense evergreen forests.

The wild life in these forests includes most of the larger animals found in the moist forests of the Peninsula with the addition of swamp deer, buffalo, rhinoceros and such animals as have a preference for this amphibious terrain.

South of the Gangetic Plain, the peninsular table-land [altitude from 300 to 900 m (1,000 to 3,000 ft)] is broken up at intervals by the valleys of intersecting rivers. It is bounded on the north by the Vindhyan range of mountains, the other two sides of the triangle being formed by the Western and the Eastern Ghats. The face of the triangular plateau is marked with scattered hill masses, the most notable being the Nilgiris, the Anamalais and the Palni hills of Southern India. The animal life of this peninsular tract is charac-

terised by the absence of many of those Indo-Chinese species which abound in the hill forests of the Himalayas. It is the home of the true Indian fauna, of which the spotted deer, *nilgai*, black buck, the four-horned antelope (*chousingha*) and the sloth bear are typical representatives. These are found nowhere else outside this country. Other species like the bison, sambhar and muntjac occur both in India and the Malayan region. In the drier part of the Peninsula, where the soil is mainly 'black cotton' overlying the Deccan trap and the vegetation consists of thorny scrub, stunted teak, bamboos or open grasslands, antelopes and gazelle are common, associated with other small animals typical of the open country, such as the jungle cat, the common fox, the common mongoose, the Indian wolf, jackal, plain squirrels, hares and a variety of field rats and mice. Bison, sambhar, spotted deer, sloth bear and wild dogs are found in the deciduous forests of the hill slopes of this trap zone. To the north and east of this zone lies a humid tract, the climate of which is somewhat similar to that of the plains of Bengal and teak gradually gives place to sal as the predominating tree of the forests. The wild life of these humid forests is enriched by the presence of elephants, buffaloes and swamp deer.

(iii) The Malabar Coast—In contrast to the adjoining dry zone of the Deccan, the Western Ghats present a region of heavy rainfall covered with dense evergreen forests composed of lofty trees, often festooned with climbers and associated with a luxuriant undergrowth of reeds and, in regression types, bamboos. In places, the forests have been opened up and the banks of streams are covered with spice and betel groves. The dense forests afford shelter to elephants, bison, and other large animals inhabiting these tracts.

The Nilgiris, an off-shoot of the Western Ghats, rise to form extensive grassy downs and tablelands dotted with patches of dense evergreen forest (*sholas*). Similar *sholas* also occur at the higher altitudes in the Anamalais, the Palni hills and other South Indian ranges. The most interesting feature of the high level forests of the Nilgiris is their affinity to similar forests in the Assam hill ranges in respect of both their flora and fauna. The forests of the Western Ghats and the South Indian hill ranges are richer in fauna than the remaining areas of the peninsular region. Among the species limited to these forests are the Nilgiri langur, the lion-tailed macaque, the Nilgiri brown mongoose and the stripe-necked mongoose, the Malabar civet and the sping mouse.

At higher elevations are found such characteristically Himalayan animals as the Tahr and the Pine-Marten.

The Problem—

Wild life in India has been diminishing at an alarming rate during recent years, particularly during the last 20-25 years. As a result of the indiscriminate slaughter of game and the thoughtless destruction of forests—the natural habitat of wild life—to satisfy the agricultural needs of an ever increasing population, many species of game animals and birds have either become extinct or have been driven to the verge of extinction. To quote a few examples, the cheetah and the pink-headed duck are extinct: the Asiatic lion and the great Indian rhinoceros are represented but by a very small number each: the Indian wild buffalo, the Kashmir stag, the swamp deer, the brow-antlered deer, the musk deer and the great Indian bustard are all badly in need of special protection if they are to survive. In many parts of the country, wild animals have been totally exterminated, while in others (where they were once abundant) they have become comparatively rare. In a few areas, the status of wild life is still reasonably satisfactory. But without special measures to conserve the country's wild life, the total annihilation of what remains of it is inevitable in the not too distant future.

Factors leading to the Depletion of Wild Life in India—

The main factors which have led to this situation are:—

- (1) In a predominantly agricultural country with its large population, it is but natural that agricultural production should receive priority over other national activities and problems. Under these conditions, a clash between the interests of man and animal becomes inevitable. Not only are forests and wastelands—which constitute the natural domain of wild life—brought under plough to increase food production, but it also becomes equally imperative to protect these cultivated crops from the depredations of wild animals. It is, therefore, hardly surprising that the peasant should regard wild life as something that he must destroy to ensure his own survival.
- (2) With the abolition of the former Princely States, in which wild life was by and

large afforded much protection against hunting or killing by the general public, wild life suffered another major setback. Further, the Government have adopted a liberal policy in the issue of arms licences. Under the guise of crop protection and vermin destruction, commercialised poaching of game animals has taken place on an increased scale. Even today, perhaps no single factor poses a more serious threat to wild life in this country than the menace of these so called "crop protection" guns, which are being grossly misused for the reckless slaughter of game for monetary gain, totally regardless of the season, sex or species. No one who has had the occasion to camp in our forests during the hot and dry summer months could have failed to listen with trepidation to the ominous boom of these murderous weapons reverberating through the stillness of the night to sound the death knell of the dumb denizens of the wild, as they visit the few localised water holes to slake their thirst. Unless timely and effective measures are taken to cry a halt to this butchery, there is hardly any doubt that our wild life is doomed to total annihilation in the not very distant future.

- (3) The post-War era has seen the emergence of a new type of a rather unscrupulous 'sportsman' who shows but little regard for the unwritten code governing the gallant sport of shikar. Armed with powerful weapons and shooting by night from the safety of a jeep fitted with blinding lights, he proves a foe, against whom wild life has but little chance of survival.
- (4) While comprehensive legislation exists for the protection of wild life, an adequate specialist organisation has yet to be set up to ensure strict enforcement.

Measures proposed for Conversion of Wild Life—

(1) While there is no denying the paramount importance of agricultural development and production in our country, it must be realised that forests (and the wild life they harbour) play a beneficial role in fostering agriculture itself through the protection of soil and moisture conservation and maintenance of the balance of nature, especially through the biological control

of harmful insects, rodents, etc. The beneficial role played by the majority of wild animals and birds far outweighs the occasional damage caused by a few species to agricultural crops. Therefore, the creation of a sound public opinion on the subject of wild life conservation and protection in India is the crying need of the hour. In the absence of such a public opinion, no measures for the protection of wild life, whether initiated by the Government or by private bodies, can stand much chance of success. We must, therefore, make our people, particularly the younger generation, wild-life minded through the medium of suitable propaganda and education. Use should also be made of other powerful media of mass contact, such as the platform, the press, the radio and the screen for this purpose.

(2) Government must restrict the so-called "crop protection" guns to the use for which alone they are actually provided. The proposals made specially during the last decade or so by the Indian Board for Wild Life must be implemented.

(3) Shooting for sport must be regulated through the strict and efficient enforcement of game laws, preferably by a separate set-up (under the Forest Department) manned by adequate, technically qualified staff. Adequate financial provision for wild life conservation can hardly be over-emphasized. In other countries, such as the United States of America, the problem of financing the work of wild life conservation has been effectively overcome by the creation of special funds. The Wild Life Commission which was set up in Malaya in the thirties strongly urged the creation of a "Wild Life Fund" to be utilized solely for the purpose of wild life conservation. This fund is to be built up from the revenue collected under the wild life enactments, including fees for shooting licences, fishing permits and sporting arms licences, duties on sporting arms and ammunition, etc. It is in the fitness of things that revenue from such sources should be ploughed back for the proper conservation and development of our wild life resources; the moral justification for putting this fund to such uses cannot be challenged. It will also prove an effective check over the nefarious activities of the poacher. It must be realised that just as proper forest conservation does not impose a total ban on the cutting of trees, so also scientific wild life management need not imply that shooting for bonafide sport should be totally prohibited. On the contrary, under suitable conditions wild life can also be

harvested under proper regulations. Adequate provision must also be made for the destruction of harmful creatures such as vermin and animals which become a menace to human life or property.

(4) The exploitation of wild life must be preceded by ecological surveys, observations of life histories and censuses of wild life populations.

(5) An increasing number of national parks and wild life sanctuaries are required to serve as asylums where wild life can live and multiply without fear of molestation by man. There are in the U.S.A. over 40 national parks covering a total forest area of more than 12,141 sq km (3 million acres) set aside for the protection of wild life and natural features. In Africa, over 20,234 sq km (5 million acres) of forests have been set apart for the same purpose, including the world famous Kruger National Park which alone covers an area of over 20,720 sq km (8,000 sq miles). While affording complete protection to the wild life in them, national parks can serve as a source of inspiration and enjoyment to the people. Here again, national parks and sanctuaries must be provided with adequate staff for their protection and funds for their maintenance and development.

A list of wild life sanctuaries, national parks, etc., established or proposed to be established is to be found in Appendix "A" to this Chapter.

In conclusion, scientific management of wild life is still to develop. The main problem is, for the present, to reconcile the demands of the cultivator for protection from wild life with the need to give protection to wild life. In other words our problem in general is mainly one of conserving wild life and, in specific instances, of controlling its numbers. Our ideal should be "Preservation through wise use" and the basic objective should be to prevent the disappearance of any species native to the country. The exploitation of wild life as a commercial crop, as is being practised in America and other countries, can start only after we have sufficiently built up our wild life resources; but this ultimate aim must be kept in view.

The Conservation Movement—

The first step was taken in 1887, when an Act came into force for the preservation of wild birds and game. It was followed by a similar Act in 1912. But they were more or less ineffective.

In the reserved forests, however, wild life received a fair degree of protection under the provisions of the Indian Forest Act, the Madras Forest Act, etc.

In 1935, through the efforts of a newly-formed society for the preservation of wild life, the Government of India held a conference on wild life in Delhi. This led to the constitution of the Hailey National Park in Uttar Pradesh (since re-named the Corbett National Park). But the enthusiasm soon died down. The only organisations for wild life regulation which have served for some time are the game associations formed by tea and coffee planters in Bengal and in Peermade, the Nilgiris and the Palnis in South India. The Bombay Natural History Society and the Darjeeling Natural History Society have also been in the fore-front of the wild life conservation movement for many years, their technical publications having served as a forum for discussion and as valuable record of Indian wild life.

After Independence, the movement gained a fresh impetus. In 1951, the Government of India convened a meeting in Delhi of an Advisory Committee to discuss the problem of wild life conservation. A Sub-Committee of leading sportsmen and wild life enthusiasts examined and suggested ways and means of setting up sanctuaries and national parks. It was felt that no substantial or lasting progress could be achieved in the absence of a permanent central organisation with suitable subsidiaries in the States. The Indian Board for Wild Life was, as a result, inaugurated at Mysore in December, 1952. Apart from the Inspector-General of Forests and the Chief Conservators or Forests of States, the participants included representatives of the Bombay and Bengal Natural History Societies, some leading conservationists of the princely order and from the general public and the Director of the Zoological Survey of India. A constitution was drawn up for the Board and notified by the Government of India in their Resolution No. 7-UO/51-R., dated the 4th April, 1952. The functions of the Board are as follows:—

- (i) To devise ways and means for the conservation and control of wild life through co-ordinated legislative and practical measures with particular reference to seasonal and regional closures, declaration of certain species as protected and prevention of indiscriminate killings.

- (ii) To sponsor the setting up of sanctuaries, national parks and zoological gardens.
- (iii) To promote public interest in wild life and the need for its preservation in harmony with natural and human environments.
- (iv) To advise Government on policy in respect of the export of living animals, trophies, skins, furs, feathers and other wild life products.
- (v) To perform such other functions as are germane to the purposes for which the Board has been constituted.
- (vi) To prevent cruelty to birds and animals caught alive with or without injury.

The Board meets once every two years, but its executive committee meets often in order to watch the progress of implementation of its resolution. To assist in the matter, State Boards have also been set up.

Wild Life Organisation, Legislation and Regulation of Sport in the States—

ANDHRA PRADESH

There are 2 sets of rules in vogue in the State, one for the Andhra region and the other for the Telangana region. In the former a 'single' licence is issued to cover a single Division only by the Divisional Forest Officer and a 'plural' licence for more than one Division by the Chief Conservator of Forests. The licence is valid throughout the year, but closed seasons are specified in the licence itself. In Telangana, shooting blocks are opened every year on a rotation of 3 years from the last week of December. The shooting period is from the first March to the end of May. Approximately 40 to 45 shooting blocks are opened every year. The following animals and birds are completely protected:—

Hunting Cheetah, Bison, Wild Buffalo, Tiger cubs, Black Buck and Great Indian Bustard.

A State Wild Life Advisory Board was constituted in May 1959.

ASSAM

Honorary Forest Officers (appointed from amongst sportsmen and lovers of wild life) disseminate knowledge of wild life preservation and help to control unauthorised killing of animals and birds. These officers assist the divisional staff in matters of wild life conservation.

In 1379, the first Elephant Preservation Act came into force to afford special protection to the elephant from destruction and to control elephant catching operations.

The Garo Hills Regulation was enacted in 1882 to prohibit hunting of animals by persons not native of the District.

The Forest Regulation VII of 1891 afforded protection to animals and birds in the reserved forests and partially in the unclassed State forests. The rules framed under Sections 25(g) and 72 of this Regulation provided rules for sport, defined shooting blocks, prohibited shooting of different animals and birds during the closed seasons, controlled the number of animals that could be shot in one season and prohibited poisoning, netting and trapping of fish and birds in the reserved forests.

In 1912, the Wild Birds and Animals Protection Act was introduced.

In 1915, the Assam Rhinoceros Preservation Act came into force providing protection to the rhinoceros. Subsequently the Assam Rhinoceros Act of 1954 was enacted, providing complete protection to this rare animal all over the State.

In addition, the Arms Act provides control and restriction on the shooting of wild animals and birds.

GUJARAT

Particularly to preserve the vanishing of fauna of the State, the Government of Bombay enacted the Wild Life Preservation Act of 1951. Initially, a full-time Wild Life Preservation Officer (Conservator's grade) was appointed to enforce it. Under the Bombay Wild Animals and Wild Birds Protection Act, 1951, all hunting and capture of birds and animals require a licence. Even the activities of dealers in animal trophies, pet birds and animals, etc., are controlled under this Act. Game fees for different kinds of licences issued under the Act are as under:—

Annual small game licence ..	Rs. 20	} Only 1 specimen of each permitted species is allowed to be shot under these licences.
Annual big game	Rs. 60	
Annual special big game licence ..	Rs. 300	

(Elephant, Bison and Lion)

Another important feature of this Act is that sale of venison is a punishable offence.

The Saurashtra Region has its own Act, viz., the Saurashtra Wild Animals and Birds Protection Act of 1952. The Act allows the shooting of panthers only on permits and extends protection to all other animals. The permit fee (for shooting panther only) is Rs. 15/- per mensem and Rs. 30/- per annum. Under the monthly licence, only 1 panther is allowed to be shot, while under the annual licence two panthers are allowed.

The following animals and birds are in danger of extinction have been given complete protection throughout the year: Lion, Hunting Cheetah, Black Panther, Indian Wild Ass, Brow-antlered deer, Pigmy Hog, Great Indian Bustard, Pink-headed Duck, White-winged Wood Duck, Indian Flamingo and Peafowl.

TABLE NO. 37
CENSUS DATA FOR GIR LIONS

Area	1936 Census	1950 Census	1955 Census
Sasan Range	60	68	114
Visavadar Range	31	24	24
Jamwala Range	68	45	80
Jasadhar Range	66	45	65
Mitlala Range .. ..	..	1	2
Girnar Range .. ..	..	3	5
Talala Range	62	..	..
Other areas .. ..	..	14	..
Total	287	200*	290

*Figures not reliable, as there was a forest fire just before the census.

KERALA

The rulers of the former princely States of Travancore and Cochin had a special love for wild life and took particular care to preserve it. Strict rules were in force for the protection of elephants. Wild life legislation in the Travancore State dates back to very early days. It was amended in 1914 and again 1922 under a regulation under the Travancore Forest Act called the "Game and Fish Protection Regulation". Similar game regulations were in vogue in other parts of the present Kerala State also.

A restricted number of shooting licences used to be issued to respectable individuals on payment of the prescribed licence fee. The game

licences restricted the number of heads, shooting season, sex, age, etc. Certain species were completely protected.

MADHYA PRADESH

At present, the responsibility for conservation and management of wild life devolves on the forest officers. It is felt that these officers are already over-burdened with their routine duties and there is need for a separate 'Wild Life Conservation Department (under the Forest Department) in the interest of proper wild life conservation.

By the Extension of Laws Act, 1958, the C. P. and Berar Games Act, 1935, and the C. P. & Berar Wild Birds and Animals Protection Act, 1912, have been extended to the whole of the new Madhya Pradesh. In the reserved forests, besides the two Acts mentioned above, shooting of wild animals is controlled by the shooting rules framed under the Indian Forest Act.

Some of the important protective provisions embodied in the above Acts and Rules are as under:—

1. Shooting or capturing of birds and animals without a licence is prohibited.
2. Setting of nets or traps near water or salt licks or on paths leading to the same is prohibited.
3. Shooting of game other than carnivora from a fixed position near water or a salt lick is prohibited.
4. Shooting of game other than carnivora from a motor vehicle or within 100 yards of a motor vehicle, is prohibited. Shooting of carnivora from a motor vehicle or within 100 yards of a motor vehicle is prohibited between sunset and sunrise.
5. Areas belonging to Government can be declared as game sanctuaries.
6. Certain reserved forest blocks can be closed to shooting.
7. For each shooting block, a limit on the number of animals that can be shot in any one year is fixed and on this limit being reached, the block is closed to shooting.
8. Driving of animals other than carnivora in any specified block can be prohibited.
9. Shooting of animals other than carnivora near water holes, salt licks, from motor vehicles, or with the aid of artificial light is prohibited.

I./S6FRIDDun-12

A State Wild Life Board is functioning since July 1960.

Game has decreased considerably in recent years and Madhya Pradesh is no longer the "happy hunting ground" described in Forsyth's "Highlands of Central India". Intensive cultivation interspersed amongst forest areas has made it impossible for certain species to live and breed unmolested and they have reached into the interior. Unauthorised and indiscriminate shooting, mostly for venison, hides or antlers, has thinned out the deer population in many Districts like Jabalpur, Saugor, Damoh, Gwalior and Guna. Similarly, because of the high value and demand for their skins, crocodiles, once common in the rivers Chambal, Narmada and Mahanadi, have almost disappeared. Another very noticeable feature has been the disappearance from the cultivated tracts of the large herds of black buck. In remote tracts like Bastar, Surguja, Jhabua, etc., where conditions are otherwise favourable for game to thrive and multiply, the local omnivorous aborigines have trapped and killed with arrows and muzzle-loading guns almost all game including even monkeys, squirrels and rats.

The wild buffalo is on the verge of extinction in the State and is now completely protected. Shooting of bison has been banned recently for a period of 3 years, as this species is also on the decline.

Census Data—The distribution of wild life in Madhya Pradesh has not yet been studied in detail, nor has any attempt been made to correlate it with vegetation and topography. All available literature on the subject is mostly the outcome of the interest shown and observations made by a number of forest officers and sportsmen during the course of their work or shooting excursions.

MADRAS

A separate State Officer looks after wild life preservation in the State.

The earliest attempt to regulate the pursuit of game in the reserved forests of Madras was made under the provisions of the Madras Forest Act of 1882. Special rules were also framed to regulate hunting, shooting and fishing and to prohibit the poisoning of waters and the setting up of traps or snares within the reserved forests. These rules do not apply to the members of hill tribes and in Class III reserved forests.

'Single' licences to shoot in one Forest Division or 'Plural' licences to shoot in more than

one Division are issued on payment of prescribed fees. Closed seasons are prescribed to afford special protection to birds and animals during the mating and breeding seasons. Shooting from moving vehicles and with the aid of flashlights is prohibited. Certain animals and birds are completely protected. The number of animals that may be shot under a licence is restricted to not more than two sambhar, one bison, two barking deer and two antelopes in a year.

The hill areas in the Nilgiris and the Palni Hills are subject to special rules. They are administered by special committees mainly of non-officials, with the concerned Collector as the President and the District Forest Officer as Secretary. The funds obtained by the sale of licences, etc., are used by the committee to protect game and for other improvement measures.

In 1878, the Madras Wild Elephants' Preservation Act was enacted to prevent the indiscriminate destruction of wild elephants. The Act provided for a penalty of Rs. 500/- or 3 months' simple imprisonment for the first conviction and double the penalty for a second conviction.

In 1937, the District Forest Officers were authorised to grant rewards of Rs. 10/- per animal for the destruction of wild dogs. The State has a Wild Life Board to guide its activities in respect of wild life development.

MAHARASHTRA

A Wild Life Preservation Officer (the Chief Conservator of Forests) is assisted by Game Wardens and Assistant Game Wardens. The former are Divisional Forest Officer and Deputy Collectors and the latter are Range Forest Officers and Police Sub-Inspectors. In addition, about 40 sportsmen and conservationists from the various regions of the State have been appointed as Honorary Game Wardens to assist the official staff in wild life preservation.

The Bombay Wild Animals and Wild Birds Protection Act, 1951, has been in force in the State since 1953, the salient features of which have already been given under Gujarat State.

A Bombay State Wild Life Advisory Board was constituted by Government in June 1953.

The most pressing wild life problem in the State is the necessity of controlling the activities of those holding crop-protection guns. Government have agreed to restrict the issue of crop-protection gun licences in particular areas where

any species of wild life is threatened with extinction.

ORISSA

When the State was part of Bengal Presidency, shooting rules were framed both for reserved and protected forests. Subject to the provisions of the Elephant Preservation Act, shooting or hunting was allowed under a licence by the competent authority. Except for prohibition against killing bison, buffalo and rhinoceros in Jalpaiguri reserved forest, the shooting rule of 1895 did not make any provision for declaring areas as sanctuaries, where shooting could be prohibited. It was only in 1907 that the game rules made a provision for declaring areas as sanctuaries. The forests were divided into 3 classes for purposes of shooting. In class I areas, shooting was allowed and the number of animals to be shot was not limited, though closed seasons were to be rigidly observed. In class II areas, permits were issued and the number of animals to be shot was limited, the closed seasons being observed. In class III areas, all shooting, trapping or fishing was totally prohibited in order to prevent the extinction of any species or to form a sanctuary for game or for other reasons.

In addition to the above rules, the Elephant Preservation Act, 1879, and the Wild Birds and Animals Protection Act, 1912, were in force in the State.

Wild buffalo, black buck and four-horned antelope, having become rare, have been declared as closed to shooting throughout the year.

Popular representatives have been associated with the preservation of wild life by the formation of a State Wild Life Board which advises the State Government on all matters connected with wild life.

PUNJAB

Separate Wild Life Preservation Department exists in the State to enforce the game laws under the direct control of the Chief Conservator of Forests. This organisation includes a Conservator for Wild Life, three Divisional Inspectors, fifteen Inspectors and 114 Wild Life Guards.

At present, two game Acts, viz., the Punjab Wild Life Preservation Act, 1933, and the Fauna of Patiala Act, 1996 B.K., are in force in the State. The Punjab area is governed by the former Act and the erstwhile PEPSU area by the latter. These Acts are to be replaced by a new unified Act called the Punjab Wild Life Preservation

Act, 1959. The forest areas are governed by separate shooting rules framed under the Indian Forest Act.

In order to save their dwindling population, black buck and chinkara are given total protection throughout the State.

A State Wild Life Board consisting of 8 official and 11 non-official members, was constituted in March 1960. The State Agriculture and Forest Minister is the Chairman of the Board and the Conservator of Wild Life the Secretary. District Fauna Committees and Shikar Clubs have also been formed in the State.

RAJASTHAN

Except for the special staff provided for the game sanctuaries, no separate organisation has been set up for the protection of wild life in the State. Protection and management of wild life in the forest areas are entrusted to the Forest Department itself.

Wild Life Conservation is regulated by (1) The Rajasthan Wild Animals and Birds Protection Act, 1951, and the Rules framed thereunder and (2) The Rajasthan Forest Act, 1953, and the Rules framed thereunder.

During the period following the formation of Rajasthan State in 1949, excessive shooting took place because every person possessing a gun got an opportunity to shoot game for the first time after ages of strict control exercised by the former rulers. To check this rapid disappearance of wild life, the Wild Animals and Birds Protection Act was promulgated in 1951 even before the promulgation of a Forest Act. Shooting in the forest areas is now effectively regulated under the Forest (Hunting, Shooting, Fishing and Water Poisoning) Rules, 1957.

The State Wild Life Board was constituted in April 1955 to advise Government on the management of wild life in the State.

It has become a difficult problem to protect wild life in areas outside the reserved and protected forests where indiscriminate shooting of black buck, chinkara and wild boar (in the name of crop protection) is threatening their very existence. These animals have, therefore, been declared as protected animals for a specified period under the Wild Animals and Birds Protection Act, 1951. Steps are also being taken to regulate the sale of meat of wild animals and birds so as to discourage their destruction for commercial purposes.

UTTAR PRADESH

A separate Wild Life Preservation Organisation was set up in 1956 to protect wild life and to manage it on a scientific basis, consisting of a Chief Wild Life Warden, 4 Wardens, 19 Assistant Wardens and 116 Guards. The Wild Life Wardens are accompanied by armed police squads and are provided with jeeps for surprise raids. The Assistant Wild Life Wardens are provided with motor cycles and the Wild Life Guards with cycles and guns for self protection.

The Indian Forest Act came into force in the seventies of the 19th century. For a considerable time even thereafter, it was believed that wild life was abundant and required no particular care. The rapid decrease in the population of elephants, however, resulted in the application of the Wild Elephants' Preservation Act, 1879, as a result of which the elephant has come to stay in Uttar Pradesh. In fact, a reduction in its numbers seems necessary now in order to save agricultural crops.

The Wild Birds and Animals Protection Act came into force in 1912 and was amended for specific application in Uttar Pradesh in 1934.

Shooting in reserved forests is regulated by rules specially framed under the provisions of the Indian Forest Act. These rules aim mainly at regulating the number of sportsmen shooting in a Forest Division, the number of animals that can be shot on a permit, fees payable by sportsmen and the prohibition of certain acts with respect to shooting in a reserved forest.

As a result of these restrictions, there has been a progressive decrease in the number of animals shot by sportsmen during the last 30 years or so, as may be seen from the following statistics:—

TABLE NO. 38
NUMBER OF GAME ANIMALS SHOT FROM 1930-31 TO 1956-57

Species	No. of animals shot by sportsmen in			
	1930-31	1939-40	1948-49	1956-57
1. Tiger ..	104	110	81	70
2. Panther ..	115	77	33	24
3. Bear ..	59	19	19	1
4. Swamp deer ..	22	23	22	9

TABLE 38—contd.

1	2	3	4	5
5. Spotted deer ..	293	285	147	143
6. Sambhar ..	175	152	57	39
7. Four-horned antelope.	3	3	..	..
8. Black Buck ..	39	6	9	1
9. Ghoral ..	73	19	1	13
10. Crocodile ..	42	13	4	..

WEST BENGAL

Three Game Associations have been functioning in the Northern Circle for about 30 years. In view of the increasing lawlessness on the part of tea garden staff and labourers, the Forest Department thought it expedient to lease out the game in these forests to the Game Associations and to make them responsible for law and order in the matter of shikar in the reserved forests. Thus, three leases were given out on a tentative basis in 1926 and these were renewed for 5-year periods in 1931 and 1936. These leases were however discontinued in 1958 on a ruling that such an arrangement was not strictly legal. The more enthusiastic among the Association members continue to assist forest officers in carrying out joint patrols for apprehending poachers. For this purpose, selected members are invested with the powers of Forest Officers by special notification. But for this, the entire responsibility for the protection and management of wild life rests with the Forest Directorate.

The first closures to shooting, hunting and fishing were effected in 1880-81. Since then such closures have become a regular feature of wild life management.

Wild life protection received a stimulus through the promulgation of the Wild Birds and Animals Protection Act, 1912. In the rules framed under the provisions of this Act, many species of birds and animals were given protection for the whole year or for a part of the year (breeding season).

Shooting in the State forests is regulated by the issue of permits on payment of prescribed fees to known sportsmen under strict conditions. Shooting of animals by night (except carnivora) is prohibited; so also is shooting of any animal from motor vehicles, near salt licks or at water holes.

Apart from the protection afforded to wild life in general in game sanctuaries, particular species of animals are given complete and special protection: the rhinoceros under the Bengal Rhinoceros Preservation Act, 1932, and the elephant, under the Elephant Preservation Act, 1879. The shooting of spotted deer, bison and the fast disappearing wild buffalo is prohibited in the Jalpaiguri and Darjeeling Districts.

In addition to the above, there has been a special prohibition for 2 years from September 1958 against the killing of any animals other than wild pig, bear and carnivora in all the forest areas of the State.

The State Wild Life Board was first constituted in 1955 for 3 years and further reconstituted in 1958 with the Chief Secretary to Government as Chairman. It deliberates on the various problems of wild life preservation and suggests remedial and ameliorative measures.

The only problem is the annual hunt organised by the tribal population in about 2,600 sq km (1,600 sq miles) of erstwhile private forests in the south-western part, the wild life population there being already very thin due to repeated annual fires. However, persuasion and patrolling in the hunting season are gradually proving effective in checking this menace.

ANDAMANS AND NICOBAR ISLANDS

The only indigenous mammal in these islands is the wild boar (*Sus andamensis*). About 25 years or so ago, various species of deer were introduced in these islands. Of these, only the barking deer and the spotted deer are now found here. The multiplication of the latter has actually been so rapid that it has become a problem to control this species. A great disadvantage is the absence in these islands of carnivora which provide the usual natural control elsewhere. About 7 years ago, a pair of male panthers was introduced to keep a check on the deer population but this measure has not proved successful.

HIMACHAL PRADESH

The protection and preservation of game receive special attention in the State. In March 1957, a Wild Life Wing was created within the Forest Department. This organisation (under the control of the Chief Conservator of Forests) consists of a Deputy Wild Life Warden with Divisional Wild Life Inspectors (at District level), Wild Life Foresters (at Tehsil level) and Wild Life Guards

(at Range level) working under him. One Divisional Wild Life Inspector for pheasantry farms in the State has been proposed.

The Fisheries Wing is also attached to the Forest Department. This Wing was established in 1950, and its staff consists of one Deputy Director of Fisheries with a Research Assistant, a Laboratory Attendant, 6 Assistant Wardens and a team of 5 Makadams, 23 Watchers and 8 Chowkidars to assist him.

The regular field staff of the Forest Department looks after the wild life and fisheries.

Prior to the formation of Himachal Pradesh, every princely State in the area had its own hunting and shooting rules and regulations. These were, however, not homogeneous and, after merger, they were replaced by shooting rules under the Indian Forest Act, 1927, and the Punjab Wild Birds and Animals Protection Act II of 1933 to deal with the forest and non-forest areas separately.

A State Wild Life Board exists since December 1959.

Due to the large number of gun licences in the State, poaching is common despite the prosecution of poachers whenever apprehended. The following animals and birds are getting rare in the State. Musk Deer, Tiger, Kashmir Stag, Snow Leopard and Clouded Leopard, Western Horned Pheasant (Tragopan), Monal, Great Indian Bustard and Snow Cock. These animals and birds have been given complete protection throughout the year since 1958.

NORTH-EAST FRONTIER AGENCY

A Wild Life Board at the Agency level and Divisional Wild Life Boards at the District level have been in existence from 1956.

TRIPURA

No special wild life legislation has been enacted in this territory. Hunting, shooting and fishing within the reserved and protected forests are regulated by the rules notified by the Administration in October 1955. The rules in brief prohibit any person from hunting, shooting, trapping or fishing in any reserved or protected forest unless he has applied for and obtained the necessary permit in this behalf. The closed seasons for birds, animals and reptiles have been indicated, during which killing or capture of any such creatures or taking off their eggs or young ones is prohibited. A Wild Life Board is advising the Administration from 1954.

Due to the peculiar configuration of the land in this territory where hills are interspersed with plains and valleys, habitations and cultivations have sprung up in the shape of innumerable pockets within the reserved and protected forests. As a result, wild life preservation is proving very difficult. The tribals dwelling in the forests possess guns and indulge in unauthorised shikar. There is also a persistent demand for guns in such areas for the protection of crops against wild life.

The bison is threatened with extinction and there are only a few left in this territory restricted to a particular forest area which it is proposed to constitute into a game sanctuary.

NOTE—Information regarding Wild Life and its conservation was unfortunately not available at the time of going to the Press in respect of Bihar, Jammu & Kashmir, Mysore and Manipur.



APPENDIX "A"

LIST OF GAMES SANCTUARIES AND OTHER AREAS SET APART FOR WILD LIFE PRESERVATION

Name of the State (In alphabetical order)	Name of the Sanctuary (Year of formation)	Area (Sq. miles)	Location	Remarks
I. Andhra Pradesh ..	1. The Pocharam Sanctuary (1952).	50	Located in Medak Division and is situated on the P.W.D. road from Medak to Yellaedy, 12 miles from Medak.	..
	2. The Pakhal Sanctuary (1952).	409	Located in the Warangal Forest Division.	..
	3. The Eturnagaram Sanctuary (1953).	314	Located in the Warangal Forest Division.	..
	4. The Qawal Sanctuary ..	208	Located in Mancheril Forest Division, Adilabad district.	Proposed.
	5. Shri Venkateswara Sanctuary.	184	Situated in the Chittoor and Cuddapah districts.	Proposed.
	6. The Ikshwaku (Nagarjunasagar) Sanctuary.	227.5	Situated in Nalgonda and Guntur districts.	Proposed.
II. Assam	1. The Kaziranga Sanctuary (1908).	165	In Sibsagar Distt. 135 miles from Gauhati and 56 miles from Jorhat on Assam Trunk Road.	Kaziranga is the stronghold in Assam of the Great Indian Rhinoceros.
	2. The North Kamrup (or Manas) Sanctuary (1905).	105	Kamrup district, 26 miles from Barpeta Road Rly. Station and 110 miles from Gauhati.	..
	3. The Sonoi-Rupa Sanctuary (1934).	85	Located in Darrang Distt. 5 miles from Dhekiajuli Rly. Station and 30 miles from Tejpur.	This sanctuary is known for rhinoceros, elephant and bison.
	4. The Pabha (or Milroy) Sanctuary (1941).	20	Situated in North Lakhimpur 11 miles from the Town.	This sanctuary has been created mainly for the protection of the wild buffalo.
	5. The Garampani Sanctuary (1952).	5	Situated in Sibsagar Distt. at the hot springs near Garampani, 10 miles from Golaghat on the road to Dhimpur.	For wild bird.
	6. The Lakhewa Game Reserve.	27	Situated in Nowgong District on the Brahmaputra about 20 miles from Nowgong and connected by a fair weather road.	..
	7. The Orang Game Reserve	24	Located in Darrang Distt. on the north bank of the Brahmaputra and almost opposite the Loakhowa Reserve.	..
III. Bihar	1. The Sasangdaburu Sanctuary (1936).	7.5	Located in the Saranda Forest Division of the Singhbhum District about 18 miles from Barajawda Rly. Station.	..
	2. The Bamiaburu Sanctuary (1934).	50	Located in the Kolham Forest Division of the Singhbhum District, nearest Rly. Station Sonna.	..

APPENDIX "A"—contd.

Name of the State	Name of the Sanctuary (Year of formation)	Area Sq. miles	Location	Remarks	
III. Bihar—contd.	3. The Barosand Sanctuary (1946).	22.9	Situated in the Latchar Forest Division in Palamau Distt. nearest Rly. Station, Chipadohar.	..	
	4. The Kodarma Sanctuary	68	Located in Kodarma Division of Hazari Bagh Distt. about 7 miles from Kodarma Rly. Station.	..	
	5. The Tebo Sanctuary (1932)	56	Situated in Singhbhum Distt., Perahat Div., nearest Rly. Station, Chakradharpur.	This Sanctuary is known for bison, spotted deer, sambar, barking deer, etc.	
	6. Jhilua Sanctuary	N.A.	In Dooghon Division, Santhal Parganas, nearest Rly. Station, Sultanganj.	..	
	7. Kaimur Sanctuary	N.A.	On Kaimur Plateau, Shahabad Division.	..	
	IV. Gujarat*	1. The Gir Sanctuary	527	It is situated within a distance of 20 miles from Junagadh City.	The Gir Sanctuary is the last stronghold of the Asiatic lion species threatened with extinction.
		V. Jammu & Kashmir	1. The Dachigam Sanctuary (Upper and Lower).	55	Situated near Harwan, 12 miles from Srinagar.	Kashmir Stag, pig, musk deer, black bear and pheasants.
	2. The Desu Sanctuary	22.75	Located in Desu Block in the Kashmir South District, 25 miles from Anantnag.	..	
	3. The Chumania Basin Sanctuary.	16	Situated in the Arau Valley above Pahalgam in the Kashmir South Distt.	..	
	4. The Shankracharya Hill Sanctuary.	0.7	Situated in Srinagar	Known for Chikor	
	5. Ajas Sanctuary	13	..	..
	6. Upper Chashma Shabi Rakh.	2.75	..	..
	7. Achabal Part A.	4.32	..	..
	8. Sum Chan & Saplivemines Nullah.	..	In Kishtwar	..	
	9. Tunnel Rakh	12.1	..	..
	10. Tandoh Rakh	0.15	..	..
	11. Pattankar & Kala Nand	..	..	..
	12. Kulkain Tata Kuti	..	In Poonch	..	
	13. Sansu	..	..	..
	14. Tandeli	..	..	..
	15. Kotli	..	..	..
	16. Thanoo	..	Game Rakhs in Jammu	..	

NOTE—Two more sanctuaries, one at Ratan Mahal and the other in Dangs, are proposed.

APPENDIX "A"—contd.

Name of the State	Name of the Sanctuary (Year of formation)	Area (Sq. miles)	Location	Remarks
V. Jammu & Kashmir— <i>contd.</i>	17. Jaganon	..	..	..
	18. Dalsar	..	..	..
	19. Gunar	..	..	..
VI. Kerala	1. The Periyar Sanctuary (1940).	310	Kottayam Dist. Situated 70 miles from Kottayam and 89 miles from Madura in Madras	The Peermade game area of 450 sq miles, forms a bufferbelt to the Sanctuary.
	2. The Neyyar Sanctuary	50	Trivandrum District	Recently established.
	3. The Vazhani Cum Peechi Sanctuary.	49	Trichur Distt.	Do.
VII. Madhya Pradesh ..	1. The Khooni Sanctuary	20	Situated in Dewas District	Known for tiger, panther, deer, sambhar and spotted deer.
	2. Shikargani 'A' Sanctuary	33	Rewa District.	..
	3. Panna Sanctuary	315	Panna District	..
	4. Siri Sanctuary	6.14	Panna District.	..
	5. Dubri Sanctuary	100	Sidhi District.	..
	6. Manjher Shikarganj	..	Rewa District.	..
	7. Shikarganj 'B'	..	Sidhi District.	..
	8. Shikarganj R.F. Block No. 4.	..	Shahdol District.	..
VIII. Madras	1. The Mudumalai Sanctuary (1940).	124	In the Nilgiris Forest Division is situated 40 miles from Ootacamund on the Ootacamund—Mysore Road.	
	2. Vedanthangal Sanctuary (1956).	20 miles around Vedanthangal Lake of 74 acres.	This sanctuary is a lake set in the midst of cultivated area in Chinglepet District, 54 miles south of Madras.	For Birds.
	3. Guindy Park	300 Acres	Raj Bhawan, Madras	For black buck and cheetal.
	4. Kodiat Kadu	..	Point Calimere, Tanjore District.	For black buck.
IX. Maharashtra ..	1. The Radhanagari Sanctuary (1960).	8	In Kolhapur District, Radhanagari Range.	Mainly for Bison.
X. Mysore	1. The Janger Valley Sanctuary.	86	Located in Chikmagalur District.	..
	2. The Dandeli Sanctuary (1949).	80	The sanctuary comprises the two forest ranges of Virnoli and Kulgi in North Kanara District.	..
	3. The Nagarhole Sanctuary (1955).	110	Situated in Coorg District ..	Bison and elephants most common.

APPENDIX "A"—contd.

Name of the State	Name of the Sanctuary (Year of formation)	Area Sq. miles	Location	Remarks
X. Mysore—contd.	4. The Bandipur Sanctuary	22	It is a "Sanctorum" within the Venugopal Wild Life Park. It adjoins the Mudumalai Sanctuary of Madras State.	..
	5. Ranganthitoo Sanctuary	1.66	Situated in Mysore District near Srirangapatna.	For Birds.
XI Orissa	1. The Raigoda Wild Life Sanctuary (1938-39).	17	Situated in Dhenkanal District. It is approached by road from Angul and is 23 miles south of Angul town. The nearest rail head is Maramandali which is 123 miles from Sambalpur.	Known for elephant, bison, sambhar, spotted deer, bear, nilgai, barking deer, tiger, panther, junglefowl and peafowl.
	2. The Debrigarh Game Sanctuary (1931).	5½	In Bhatli Range of Sambalpur Div. in the Sambalpur District.	..
	3. The Chandka Sanctuary (1935).	12	Located in Puri District. It is 8 miles from the famous Khandagiri caves and 12 miles west of Bhubneswar. Approachable from Bhubneswar Rly. Station and from Cuttack.	..
	4. The Balukhand Sanctuary (1935).	3257 acres	Located in Puri Distt. It is just on the sea-shore and is only 4 miles from Puri, covering the Balukhand casuarina plantation.	For black buck.
XII. Punjab	1. The Hissar Cattle Farm Bir (1942).	6774 acres	District Hissar.	..
	2. Bir Ghugiana (1958)	4678 acres.	District Bhatinda.	..
	3. Bhagirat Bhagti Ashram (1958).	156 highas.	District Gurgaon.	..
	4. Dalhousie Municipal Forests (1958).	..	District Gurdaspur.	..
	5. Glen Forests in Simla, Hazlemera and Cheriten Estates (1958).	324 acres	District Simla.	..
	6. Tara Devi (1952)	409 acres	District Simla.	..
	7. Karol (1952)	909 "	District Simla.	..
	8. Chail and Pashgaon (1952)	5,868 "	District Simla.	..
	9. Manali (1954)	6,167 "	District Kangra.	..
	10. Kais (1954)	3,379 "	District Kangra.	..
	11. Khokhan (1954)	3,306 "	District Kangra.	..
	12. Kanawar (1954)	13,435 "	District Kangra.	..
	13. Chandigarh Lake (1960)	..	District Ambala.	..
	14. Bir Shikargah (1952) ...	1,896 "	District Ambala.	..

APPENDIX "A"—contd.

Name of the State	Name of the Sanctuary (Year of formation)	Area (Sq. miles)	Location	Remarks
XII. Punjab . contd.	15. Kelesar Forest Area (1956)	11,525 acres	District Ambala.	..
	16. Darpur (1956)	9,259 ..	District Ambala.	..
	17. Bhadson and Aishban (1952).	2,638 ..	District Sangrur.	..
	18. Bir Moti Bagh (1952)	1,295 ..	District Patiala.	..
	19. Bir Bhunesheri (1952)	2,058 ..	District Patiala.	..
	20. Bir Mehswala (1952)	524 ..	District Patiala.	..
	21. Bir Dasanjow (1952)	1,480 ..	District Patiala.	..
	22. Bir Bhupinder Sagar (1952).	3,200 ..	District Patiala.	..
	23. Bir Theh Majibullah (1957)	762 ..	District Karnal.	..
	24. Bir Barason (1957)	1,114 ..	District Karnal.	..
25. Bir Kohli Khera (1958)	1,493 ..	District Karnal.	..	
XIII Rajasthan..	1. The Jaisamand Game Sanctuary (1955).	40 sq. miles	Situated 30 miles from Udaipur.	..
	2. The Sawai Madhopur Game Sanctuary (1955).	50	It is situated 14 miles away from Sawai Madhopur.	..
	3. The Sariska Game Sanctuary (1955).	36	It is located 22 miles from Alwar.	..
	4. The Darrah Game Sanctuary (1955).	40	The sanctuary is located 32 miles from Kota on the Kota—Jhalawar Road in Rajasthan.	..
	5. The Ram Sagar Game Sanctuary (1955).	7	Located 22 miles from Dholpur in Bharatpur Distt. The nearest place for getting to the game Sanctuary is Dholpur (22 miles) and Van-Bihar (10 miles).	A variety indigenous birds and wild animals, particularly tigers, panthers, bison, sambhar, cheetal, <i>nilgai</i> , chinkara and pigs, inhabit the sanctuary.
	6. The Ban-Vihar Game Sanctuary (1955).	8	Located 20 miles away from Dholpur in Bharatpur District.	..
	7. The Keoladeo Ghana Sanctuary (1956).	11	Located 3 miles from Bharatpur.	For bird .
	8. Mt. Abu Sanctuary (1960)	60	The forest reserve around Mt. Abu in Sirohi Distt. is a sanctuary. Mt. Abu is accessible by road from Abu Road station on the western railway.	..
XIV, Uttar Pradesh	1. Rajaji Sanctuary (1948)	173	Located in the Siwaliks of the Saharanpur Forest Division and on the Dehra Dun—Delhi road.	Main species found are sambhar, cheetal, barking deer, tiger, leopard, pig, bear, jungle fowl and peafowl, etc.
	2. The Kansrao Sanctuary (1935).	292	Situated in the Dehra Dun Division. A good road passes through the area as also the Rly. line from Hardwar to Dehra Dun with Kansrao station in the Centre.	..

APPENDIX "A"—*contd.*

Name of the State	Name of the Sanctuary (Year of formation)	Area (Sq. miles)	Location	Remarks	
XIV. Uttar Pradesh— <i>contd.</i>	3. The Nanda Devi Sanctuary, (1939).	125	Situated in the Garhwal District, and in the catchment of the Rish Ganga above its junction with Bagini Gal in Kumaon.	..	
	4. The Chandraprabha Sanctuary.	30	Situated in the Chakia forest near Banaras.	This Sanctuary has been proposed as the new home of the Indian lion, the topography closely resembling that of the Gir forest.	
	5. The Malan Sanctuary	32.48	In the Lansdowne Forest Divn. The Sanctuary is on the road from Chini to Kotdwara.	..	
	6. The Jaulasal Sanctuary	21.2	Situated in the Haldwani Forest Division, Naini Tal. It is 20 miles from Haldwani on the Tanakpur road.	..	
	7. The Maldhan Sanctuary	7.2	Situated in the Tarai and Bhabhar Divn., Naini Tal and is approachable from Ramnagar (NER).	Known for tiger, leopard, gond bear, sambar, cheetal, para kakar, pig, peafowl, pheasant, jungle fowl, part-ridge, etc.	
	8. The Tanda Sanctuary	4.7	Located in the Tarai and Bhabhar Divn., Naini Tal. The nearest place to the Sanctuary is Lalkua.	..	
	9. The Sonaripur Gond Sanctuary.	24.63	Located in the North Kheri Forest Divn., Lakhimpur—Kheri Distt. Accessible from Sonaripur (NER).	..	
	10. The Govind Pashu Vihar	368	Situated in the Tons Forest Division, Tehri Garhwal. It is approachable from Dehra Dun, Chakrata, from where a mule track following the Upper Simla road for some distance, Mundali is to be taken. It is remote and difficult of access.	Known for leopard, snow leopard, black and brown bear, thar serow and the chir and the monal pheasants.	
	XV. West Bengal	1. The Senchal Sanctuary (1940).	15.27	Situated in the Senchal and Takdah ranges of Darjeeling Division.	Barking deer, bear and birds are commonly seen.
		2. The Gorumara Sanctuary (1949).	3.30	Situated in the Lataguri Sub-division of Jalpaiguri, 7 miles from Chalsa and Lataguri station.	Mainly for rhinoceros.
3. The Chapramari Sanctuary (1939).		3.40	Situated within the Upper Tondu Range of Jalpaiguri Division, between Chalsa and Nagrakata Rly. Stations.	For rhinoceros and other species.	
4. The Jaldapara Sanctuary (1941).		36	Situated in Jalpaiguri Distt. in the Nilpara range of Cooch Behar Division about a mile from Hasimara station to the east and a similar distance from Madarihat station in the west.	The sanctuary is mainly for rhinoceros which are estimated to be some 30 in number.	

APPENDIX "A"—*contd.*

Name of the State	Name of the Sanctuary (Year of formation)	Area Sq. miles	Location	Remarks
XV. West Bengal— <i>contd.</i>	5. The Lothian Island Sanctuary (1948).	14.67	Situated in Sunderbans Forest of 24 Parganas district, in the delta of the Hooghly river. The nearest railway station is Diamond Harbour, 50 miles by river.	The fauna is mainly cheetal and pig and occasionally tiger.
	6. The Mahanadi Sanctuary (1955).	49.10	Situated in the foothills of the Darjeeling district, north of Silliguri Town in Kur. oong Division.	Mainly for bison and cheetal.
	7. Sajnakhali Sanctuary (1960).	139.92	In Sunderbans R.F. of 24-Parganas District.	For Royal Bengal Tiger and other species.
	8. Halliday Island Sanctuary (1960).	2.3	Do.	Do.

CENTRALLY ADMINISTERED TERRITORIES

XVI. Himachal Pradesh ..	<i>Notified—</i>			
	1. Water Catchment Area, Simla.	22.93	Simla Forest Divn., Mahasu Distt.	For Kalij pheasants.
	2. Simbal-bara Sanctuary	21.42	Nahan Forest Divn., Sirmur Distt.	For cheetal and sambhar.
	3. Renuka Sanctuary	6	Rajgarh Forest Divn., Sirmur.	For Kalij pheasants, red-jungle fowl and barking deer.
	4. Kalatop and Kahajiar Sanctuary.	18.03	Chamba Divn., Chamba Distt.	For Koklas pheasants, goral and serow.
	<i>Proposed—</i>			
	5. Chitkul and Rakhehum Sanctuary—alpine area.	20 to 30	Upper Bushahr Divn., Mahasu	For bharal and snow cock.
	6. Lippa Valley Sanctuary	16	Do.	For bharal, ibex and snow cock.
	7. Dharan-ghati and Nogli Sanctuary.	..	Upper and lower Bushahr Divns., Mahasu District.	For musk deer, monal and Koklas pheasants.
	8. Chachpur and Shashan Sanctuary.	21	Jubbal Forest Divn., Mahasu Distt.	Do.
	9. Sarhan, Kango and Ladeki-Bian Sanctuary.	15	Solan Forest Divn., Mahasu Distt.	For sambhar, barking deer and red-jungle fowl.
	10. Majathal and Mongal Sanctuary.	15	Do.	For Goral and cheer pheasant.
	11. Nana Devi Sanctuary	25	Bilaspur Forest Divn., Bilaspur District.	For barking deer, red-jungle fowl and partridges.
	12. Bhakra Lake Sanctuary	64	Do.	For Birds.
	13. Shikari and Gaowliah Valley Sanctuary.	..	Mandi Forest Divn., Mandi Distt.	For musk deer and monal pheasant.
14. Nargu Sanctuary	21	Do.	For musk deer and cheer pheasants.	
15. Bandalli Sanctuary	..	Sundernagar Divn., Mandi Distt.	For Goral.	

APPENDIX "A"—contd.

Name of the State	Name of the Sanctuary (Year of formation)	Area (Sq. miles)	Location	Remarks
XVI. Himachal Pradesh— <i>contd.</i>	<i>Proposed—contd.</i> 16. Tundah Nala Sanctuary	20	Chamba Divn., Chamba Distt.	For goral, serow and Koklas pheasant.
	17. Pangi Sanctuary	15	Churah D. Divn. Chamba Distt.	For ibex and snow leopard.
	18. Sya Behi & Gangul Sanctuary.	18	Do.	For Kashmir stag and tahr.

2. LIST OF NATIONAL PARKS

Name of the State	Name of the National Park (Year of formation)	Area Sq. miles	Location	Remarks
I. Bihar	Hazaribagh (1955)	71	Situated 10 miles north-west of Hazaribagh on the Patna-Ranchi Road.	..
	Palamau	65	In Palamau District, 10 miles south-east of the Ranchi-Daltonganj Road.	Proposed.
II. Gujarat	Balaram	..	Bana-kantha District	Proposed.
III. Madhya Pradesh ..	Shivpuri	61	In the Shivpuri District of erstwhile Gwalior State. It is approached from Gwalior from where it is 72 miles south on Bombay—Agra Road.	Not yet notified.
	Kanha (1956)	97.7	Situated in the Banjar Valley in the heart of the semi-overgreen sal forests of the central high lands of Mandla. It can be reached by road (Mandla—Jabalpur 95 miles, Nagpur 167 miles) and by rail (Mandla Fort—35 miles, Chiraidongri—27 miles, Balaghat—Muki).	Swamp deer (<i>barasingha</i>) bison, black buck.
IV. Maharashtra	Taroba (1935)	45	30 miles north-east of Chanda Rly. Station, around Taroba Lake in W. Chanda Division.	..
V. Mysore	Venugopal	310	Situated in Mysore Distt. The area of this park adjoins the Mudumalai sanctuary of Madras state. The Park is combined with a 'Sanctum sanctorum' of 22 sq. miles within the park known as the Bandipur Sanctuary.	Elephants, bison and spotted deer are most commonly seen.
VI. Orissa	Similipal	350	In the Similipal Hills of Mayurbhanj Distt. about 42 miles from Badampahar hills.	Proposed.
VII. Uttar Pradesh ..	Corbett (1935)	125	Situated in the Kalagarh and Ramnagar Forests Divisions. It consists of the Patli Doon bordering the Ramganga river and a portion of hills to the south. The nearest rail heads are Kotdwara and Ramnagar.	Formerly known as Haiky National Park.

APPENDIX "A"—concl'd.

Name of the State	Name of the National Park (Year of formation)	Area sq mile	Location	Remarks
VIII. Andamans & Nicobar Islands ..	Ross Island	1.92	Ross Island	Proposed.
IX. North East Frontier Agency ..	The National Frontier Park	802	In the Noa-Dihing Valley of the Lakhimpur Frontier Track of Assam in the extreme corner of Assam bordering Burma. The nearest station is Ledo, which is 35 miles by fair weather road to Miae, beyond which the park is 10 miles by footpath.	Proposed. Significant for a species of rhinoceros, which because of the hilly nature of the terrain, is suspected to be the 2 horned <i>Rhinoceros sumatrensis</i> . Area is not exploited for produce being too inaccessible.

3. LIST OF FISHING RESERVES AND HATCHERIES

Name of the State	Name of the National Park (Year of formation)	Area sq mile	Location	Remarks
Himachal Pradesh ..	<i>Fishing Reserves—</i>			
	1. Trout Angling Reserve on river Pabar in Mahasu Distt.	..	From Sandaur Village Upstream.	Approximate river length 18 miles.
	2. Trout Angling Reserve on river Uhl in Mandi Distt.	..	..	Approximate river length 35 miles.
Himachal Pradesh ..	3. Trout Angling Reserve on river Baspa in Kinnaur Distt.	..	..	Approximate river length 18 miles.
	<i>Fish Hatcheries—</i>			
	1. Barot, Distt. Mandi	..	For Trout.	..
	2. Chirgaon, Distt. Mahasu	..	For Trout.	..
	3. Sangla, Distt. Kinnaur	..	For Trout.	..
	4. Nahan, Distt. Sirmur	..	For Mirror Carp.	..
	5. Deoli, Distt. Bilaspur	..	For Mirror Carp.	..

4. LIST OF ZOOLOGICAL PARKS

State	Name of Zoological Park and year of Formation	Location	Remarks
1 Delhi	1 Delhi (1955)	New Delhi. On the road between Purana Qila and Humayun's Tomb.	It is the only Zoological Park in India at present

APPENDIX "B"

LIST OF COMMON GAME ANIMALS AND BIRDS OF INDIA WITH THEIR DISTRIBUTION

Common Name	Scientific Name	Distribution
(a) GAME ANIMALS		
(i) CATS		
1. The Tiger	<i>Panthera tigris tigris</i>	Practically throughout India from the Himalayas to Cape Comorin, except in the deserts of Rajputana, the Punjab and Kutch.
*2. The Lion	<i>Panthera leo persica</i>	It was once found over the whole of Northern and Central India as far south as the Narmada. It is now restricted to the Gir forests in Kathiawar.
3. The Leopard or Panther	<i>Panthera pardus</i>	Punjab, Patiala, Kashmir and over the whole country.
*4. The Cheetah or Hunting Leopard	<i>Acinonyx jubatus venaticus</i>	Once found in the plain and lower hills of Northern and Central India as far down as the Deccan and Mysore. Now believed extinct.
*5. The Clouded Leopard	<i>Neofelis nebulosa macrosceloides</i>	Assam and North Bengal.
*6. The Snow Leopard	<i>Panthera uncia</i>	About 1,524 m. (5,000 ft.) in Himalayas, Assam, Bengal and U.P.
7. The Leopard Cat	<i>Felis (Prionailurus) bengalensis</i>	Punjab.
8. The Indian Desert Cat	<i>Felis libyca ornata</i>	The desert of north-west India extending upto drier parts of Central India.
9. The Jungle Cat	<i>Felis chaus</i>	All over the country from the Himalayas to Cape Comorin.
*10. The Caracal	<i>Felis caracal schmitzi</i>	Common in the north and north-west hills of Kutch. Also in drier parts of Punjab, Rajputana, U.P. and Central India.
11. The Lynx	<i>Felis lynx isabellina</i>	Punjab, Patiala and Kashmir.
(ii) CIVETS		
12. The large Indian Civet	<i>Viverra zibetha</i>	Punjab, Patiala and upper Bengal and Assam.
13. The Small Indian Civet	<i>Viverricula indica</i>	Punjab and the Himalayan foothills and southwards to Cape Comorin.
14. The Common Palm-Civet or Toddy Cat	<i>Paradoxurus hermaphroditus</i>	Kashmir, the Himalayas and Assam, southwards through whole of peninsula, except the desert zone.
(iii) MONGOOSES		
15. The Small Indian Mongoose	<i>Herpestes auropunctatus</i>	Northern India from Kashmir to Bengal, Orissa and Assam southwards to Gujarat.
16. The Indian Grey Mongoose	<i>Herpestes edwardsi</i>	The whole of India, from the Himalayan foothills to Cape Comorin.
17. The Stripe-necked Mongoose	<i>Herpestes vitticollis</i>	The Western Ghats, from North Kanara and Southwards to some of the adjoining Indian hills.
(iv) THE DOG TRIBE		
*18. The Wolf	<i>Canis lupus</i>	Kashmir and Punjab, extending upto the desert zone and dry open plains of Peninsular India.
19. The Jackal	<i>Canis aureus</i>	Throughout India.
20. The Bengal Fox	<i>Vulpes bengalensis</i>	The whole of India, from the Himalayas to Cape Comorin.
21. The Wild Dog	<i>Cuon alpinus</i>	Throughout the forest regions of India.

APPENDIX "B"—contd.

Common Name	Scientific Name	Distribution
	(a) GAME ANIMALS—contd.	
	(v) HYAENA	
22. The Striped Hyæna	<i>Hyaena Hyaena</i>	Almost the whole of India from lower Kæshmir to Nepal the Terai, from Rajasthan eastwards to lower Bengal and from Kutch Southwards to the Nilgiris, probably up to Cape Comorin.
	(vi) BEARS	
23. The Sloth Bear	<i>Melursus ursinus</i>	The forested tracts of India and Assam, from the base of the Himalaya to Ceylon.
24. The Himalayan Black Bear	<i>Selenarctos thibetanus</i>	Punjab, Himachal Pradesh, Patiala, Kashmir, Himalayas and Assam.
25. The Brown Bear	<i>Ursus arctos</i>	Higher levels of north-western and Central Himalayas.
	(vii) PIGS	
26. The Indian Wild Boar	<i>Sus scrofa cristatus</i>	Punjab, Himachal Pradesh, Patiala, Kashmir and nearly the whole of India.
	(viii) WILD SHEEP AND GOATS	
27. The Urial or Shapo	<i>Ovis orientalis punjabiensis</i>	Punjab, Patiala, Kashmir, Gilgit, Aster and Ladakh.
28. The Nayan or Great Tibetan Sheep	<i>Ovis ammon hodgsoni</i>	Punjab, Himachal Pradesh, Patiala and Ladakh.
29. The Bharal or Blue sheep	<i>Pseudois nayaur</i>	Punjab, Himachal Pradesh, Patiala and Kashmir.
30. The Himalayan or Asiatic Ibex	<i>Capra ibex sibirica</i>	Punjab, Himachal Pradesh, Patiala and Kashmir. In Kumaon a different race occurs.
31. The Markhor	<i>Capra falconeri</i>	Kashmir and parts of Himachal Pradesh and Punjab.
32. The Himalayan Tahr	<i>Hemitragus hylocrius</i>	Punjab, Himachal Pradesh, Patiala and Kashmir to Sikkim in the Himalayas.
33. The Nilgiri Tahr	<i>Hemitragus jemlahicus</i>	From the Nilgiris to the Annamalais and southwards along the Western Ghats at elevation from 1219 to 1524 m (4,000 to 5,000 ft.).
	(ix) GOAT-ANTELOPES	
34. The Grey Himalayan Goral	<i>Naemorhedus goral goral</i>	Punjab, Himachal Pradesh, Patiala, Kashmir and Kumaon.
35. The Serow	<i>Capricornis sumatraensis</i>	The Himalayas, from Kashmir to Mishmi Hills in Assam.
36. The Brown Goral	<i>Naemorhedus goral hodgsoni</i>	Eastern Himalayas to Assam.
	(x) ANTELOPES	
*37. The Indian Antelope or black buck	<i>Antilope cervicapra</i>	Punjab, Patiala, Kashmir, U.P. and practically all over the Indian plains except on Malabar coast. They avoid the hills.
38. The Four-horned Antelope (<i>Chousingha</i>)	<i>Tetracerus quadricornis</i>	Not a true antelope Punjab, Patiala, Peninsular India, South of Himalayas, where the country is wooded and hilly but not too densely forested. Not found on the Malabar coast.
*39. The Indian Gazelle or Ravine Deer (<i>Chinkara</i>).	<i>Gazella gazella bennetti</i>	The plains and lesser hills of North-Western and Central India, extending through the open lands of the Deccan to a little south of Krishna river.
40. Blue bull (<i>Nilgai</i>)	<i>Boselaphus tragocamelus</i>	Peninsular India, from the base of Himalayas to Mysore eastern Punjab, Gujarat, Maharashtra.
	(xi) THE DEER	
*41. Kashmir Stag (<i>Hangal</i>)	<i>Cervus elaphus hanglu</i>	Limited to north of the valley of Kashmir and some adjacent valleys.
*42. The Brow-antlered deer (<i>Sangnai</i>)	<i>Cervus (Panolia) eldi eldi</i>	Manipur.

APPENDIX "B"—contd.

Common Name	Scientific Name	Distribution
*43. The Swamp Deer (<i>Gond</i>) or <i>Barasingha</i>	<i>Cervus (Rucervus) duvauceli</i> ..	Limited to India. Two races are recognised. The swamp dwelling animal of Terai, U.P. and Assam and the Sunderbans distinguished by its splayed hoof and larger skull, and the form found in hard open ground of M.P. with smaller and well knit hoof.
44. The Sambhar	<i>Cervus (Rusa) unicolor niger</i> ..	The wooded districts of India.
*45. The Hog Deer (<i>Para</i>)	<i>Axis porcinus</i>	The low alluvial grass plains of north India, from Punjab to Assam. It is not found in the Indian Peninsula.
46. The Spotted deer (<i>Cheetal</i>)	<i>Axis axis</i>	In the forests at the base of the Himalayas upto western Assam and practically throughout the peninsula, wherever there is jungle combined with good grazing and plentiful supply of water. It is unknown in the arid plains of the Punjab and a large portion of Rajputana, in eastern Assam and the countries east of the Bay of Bengal.
47. The Muntjac or Barking deer	<i>Muntiacus muntjak</i>	All over India.
*48. The Musk deer	<i>Moschus moschiferus</i>	Kashmir, Punjab and Himachal Pradesh up to Kumaon in the Himalayas.
49. The Indian Chevrotain or Mouse Deer	<i>Tragulus meminna</i>	Forested areas of south India at an elevation up to 1,829 m (6,000 ft.). The 24° latitude is approximately the limit of its northerly range in the peninsular area.
(xii) WILD OXEN AND BUFFALOES		
50. The Bison (<i>Gaur</i>)	<i>Bos gaurus gaurus</i>	The hill forests of India in the east and south. It is said to be found in the hills of Manipur, but whether any herds exist there at present is not known.
*51. The Indian Buffalo	<i>Bubalus bubalis</i>	The grass jungle of the Terai in Assam and Bengal and the plains of the Brahmaputra in Assam. A few herds survive in parts of Orissa, the adjoining Raipur districts of M.P. and in the former State of Bastar.
(xiii) THE WEASEL TRIBE		
52. The Common Otter	<i>Lutra lutra</i>	Punjab, Kashmir, the Himalayas and Assam.
53. The Himalayan yellow throated Marten	<i>Martes (Charronia) flavigula</i> ..	The Himalayas and the Assam hill ranges.
54. The Himalayan Weasel	<i>Mustela sibirica</i>	The Himalayas.
55. The Ratel or Honey Badger	<i>Mellivora capensis</i>	The base of the Himalayas to Cape Comorin.
(xiv) INSECTIVORES		
56. The Indian Hedgehog	<i>Paraechinus micropus</i>	Plains of south India.
(xv) PANGOLINS		
57. The Pangolin or scaly Ant-eater	<i>Manis crassicaudata</i>	Plains and lower hill-slopes, South of the Himalayas.
(xvi) RODENTS		
58. Brown Flying Squirrel	<i>Petaurista petaurista philippensis</i>	Forests of Peninsular India.
59. The Red Flying Squirrel	<i>Petaurista petaurista albiventer</i>	Western Himalayas.
60. The Indian Giant Squirrel	<i>Ratufa indica</i>	Deciduous, mixed deciduous and most evergreen forest of Peninsular India, south of the Ganges.
61. The Indian Porcupine	<i>Hystrix indica</i>	From the Himalayas to Cape Comorin.
62. The Common Hare	<i>Lepus nigricollis ruficaudatus</i> ..	From the Himalayas southwards to the Godavari

APPENDIX "B"—contd.

Common Name	Scientific Name	● Distribution
63. The Black-naped Hare ..	<i>Lepus nigricollis nigricollis</i> ..	From Southern India to the Godavari on the east and as far north as Khandesh and the Western districts of Madhya Pradesh.
64. The Desert Hare ..	<i>Lepus nigricollis dayanus</i> ..	Punjab, Kutch, Rajputana and Kathiawar.
	(xvi) ELEPHANT	
65. The Indian Elephant ..	<i>Elephas maximus</i> ..	Assam, Bengal, U.P. Mysore, Bihar, Kerala and Madras.
	(xvii) HORSES AND RHINOCEROSES	
*66. The Great One horned Rhinoceros	<i>Rhinoceros unicornis</i> ..	Restricted to Assam Plains, but moves into the foot hills. In North Bengal also.
*67. The Indian Wild Ass ..	<i>Equus hemionus khur</i> ..	The Rann of Kutch and parts of the desert zone of north-west India.
	(b) GAME BIRDS	
*1. The Great Indian Bustard ..	<i>Choriotis nigriceps</i> ..	Punjab South through Rajasthan, Gujarat, M.P. Hyderabad to Madras and Mysore. Casual in U.P., Bihar, West Bengal and Orissa. Now rare and decreasing. Mainly restricted to Rajasthan and Gujarat.
2. Chikor or Chukor ..	<i>Alectoris graeca</i> ..	Himalayas from Ladakh into Central Nepal and hill ranges of the Punjab from the foot-hills up to 4,877m (16,000 ft.).
†3. The Common Coot ..	<i>Fulica atra</i> ..	Practically throughout India, including Assam upto about 2,438 m (8,000 ft.) in outer Himalayas.
4. The Common Crane ..	<i>Grus grus</i> ..	Visits India in enormous numbers during winter.
‡5. The Demoiselle Crane ..	<i>Anthropoides virgo</i> ..	In winter common throughout Northern India down to Mysore. South of the Deccan it is rare. It also visits Assam.
6. The Sarus Crane ..	<i>Grus antigone</i> ..	Punjab, East to Assam, and Manipur, south to the Godavari.
7. The Spotted Dove ..	<i>Streptopelia chinensis</i> ..	Throughout India.
8. The Indian Ring Dove ..	<i>Streptopelia decaocto</i> ..	Throughout the drier parts of India.
9. The Comb. duck or Nukta ..	<i>Sarkidiornis melanotos</i> ..	Practically throughout India.
10. The Cotton Teal ..	<i>Nettapus coromandelianus</i> ..	Throughout India.
11. The Whistling Teal ..	<i>Dendrocygna javanica</i> ..	Found throughout India.
12. The White-winged Wood Duck ..	<i>Cairina scutulata</i> ..	Assam.
13. The Pink-headed Duck ..	<i>Rhodonessa caryophyllacea</i> ..	U.P. Bihar, Bengal and Assam.
14. The Gadwall ..	<i>Anas strepera</i> ..	Wintering bird from Punjab to Assam, decreasing southwards.
15. Common or green Winged Teal	<i>Anas crecca</i> ..	All over India.
16. The Garganey or Blue Winged Teal	<i>Anas querquedula</i> ..	Winters throughout India.
17. The Brahminy Duck or Ruddy Sheldrake	<i>Tadorna ferruginea</i> ..	Common. Do not breed in the plains of India.
18. The Pintail ..	<i>Anas acuta</i> ..	Winters all over India.
19. The Bengal Florican ..	<i>Eupodotis benghalensis</i> ..	Kumaon, Bihar, Bengal and Assam.
20. The Lesser Florican or Likh ..	<i>Eupodotis indica</i> ..	Northern India; south to northern Madras.

*Resident but also local migrant. Bird of dry areas.

†Resident but also a winter visitor.

‡Winter visitor.

APPENDIX "B"—concl'd.

Common Name	Scientific Name	Distribution
*21. The Barheaded Goose ..	<i>Anser indicus</i> ..	Breeds in Ladakh Winters in North India and South to Orissa
22. Mallard ..	<i>Anas platyrhynchos</i> ..	Northern India.
23. The Purple Moorhen ..	<i>Porphyrio porphyrio</i> ..	Practically throughout the plains of India.
24. The Grey Jungle fowl ..	<i>Gallus sonneratii</i> ..	The forested portions of Central India, roughly from Baroda to Mt. Abu on the west to the mouth of Godavari on the east and throughout South India in Cape Comorin.
25. The Red Jungle Fowl *	<i>Gallus gallus</i> ..	The Indian race <i>murghi</i> is resident in North India and Assam, Chiefly in the belt of Himalayan Terai, Bhabar and foothills upto 1,524 m (5,000 ft.) and south to Godavari river.
26. The Black Partridge ..	<i>Francolinus francolinus</i> ..	Resident throughout N. India (commonly upto 1,524 m (5,000 ft.) in western Himalayas) east to Manipur and Assam.
27. The Grey Partridge ..	<i>Francolinus pondicerianus</i> ..	Resident in drier portions mostly plains throughout India upto 1,524 m (5,000 ft.) in the Himalayas, East Bengal and South to Cape Comorin.
28. The Painted Partridge ..	<i>Francolinus pictus</i> ..	North Central India, South to Combatore.
29. The Hill Partridge ..	<i>Arborophila torquola</i> ..	Punjab hills, and Himachal Pradesh eastwards to Assam.
30. The Himalayan snow cock (<i>Ramchukor</i>)	<i>Tetraogallus himalayensis</i> ..	In the Himalayas above the tree line.
31. The Common Peafowl ..	<i>Pavo cristatus</i> ..	Throughout India. Locally upto 1,524 m (5,000 ft.) in Himalayas. Absent from north-east Assam.
32. The Blue Rock Pigeon ..	<i>Columba livia</i> ..	Throughout India.
33. The Nilgiri wood pigeon ..	<i>Columba elphinstonii</i> ..	Nilgiris and other South Indian hills.
34. The Common Green Pigeon ..	<i>Treron phoenicoptera</i> ..	Almost throughout India.
†35. The Kalij Pheasant ..	<i>Lophura leucomelana</i> ..	Most widely distributed pheasant in the Himalayas.
36. The Cheer Pheasant ..	<i>Catreus wallichii</i> ..	Western Himalayas from 1,200 to 3,400 m. (4,000 to 11,000 ft.)
37. Impoyan or Monal pheasant ..	<i>Lophophorus impejanus</i> ..	Himalayas from Kashmir to Bhotan from 2,000 m (7,000 ft.) to the forest limit.
38. The Pakras or Koklas pheasant ..	<i>Pucrasia macrolopha</i> ..	Western Himalayas upto 2,743 m (9,000 ft.).
39. The Black breasted or Rain Quail ..	<i>Coturnix coromandelica</i> ..	Throughout India upto 1,849 m (6,000 ft.) in the Himalaya including Assam.
40. The Common or Grey Quail ..	<i>Coturnix coturnix</i> ..	Over greater part of North and Central India and east to Manipur. Migrant in winter, south to the Nilgiris Hills.
41. The Jungle Bush Quail ..	<i>Perdicula asiatica</i> ..	Throughout India upto 1,219 m (4,000 ft.).
42. The Indian or yellow-legged Button Quail ..	<i>Turnix tanki</i> ..	Practically the whole of India.
43. The Imperial Sandgrouse ..	<i>Pterocles orientalis</i> ..	Lower Punjab and Rajasthan and south to Kutch and Saurashtra.
44. The Painted Sandgrouse ..	<i>Pterocles indicus</i> ..	Throughout the greater part of India excluding the Indo-Gangetic plain and the West Coast.
45. The Common Indian Sandgrouse ..	<i>Pterocles exustus</i> ..	From Kashmir, east to Behar, south to Kerala.

* Race in S. India.

† Four forms in the Himalayas one form in Assam.

APPENDIX "B"—contd.

English Name	Scientific Name	Distribution
46. The Wood Snipe	<i>Gallinago nemoricola</i>	Breeds in the Himalayas from Dalhousie east, from 600m (2,000 ft). Winters from lower Himalayas south to the hills of South India.
47. The Common or Fantail Snipe	<i>Gallinago gallinago</i>	A winter migrant visiting practically the whole of India. Breeds in Kashmir.
48. The Pintail Snipe	<i>Gallinago stenura</i>	Common in eastern and southern India during winter.
49. The Jack Snipe	<i>Gallinago minima</i>	Do.
*50. The Painted Snipe	<i>Rostratula benghalensis</i>	The race <i>benghalensis</i> occurs throughout India and upto 1,524 m (5,000 ft.) in the Himalayas.
†51. The Wood cock	<i>Scelopax rusticola</i>	Almost throughout India mostly in the hills. Breeds in the Himalayas.

* Resident but also local migrant.

† Winter visitor.

NOTE—The animals and birds marked with asterisk(*) have either become extinct or are threatened with extinction.

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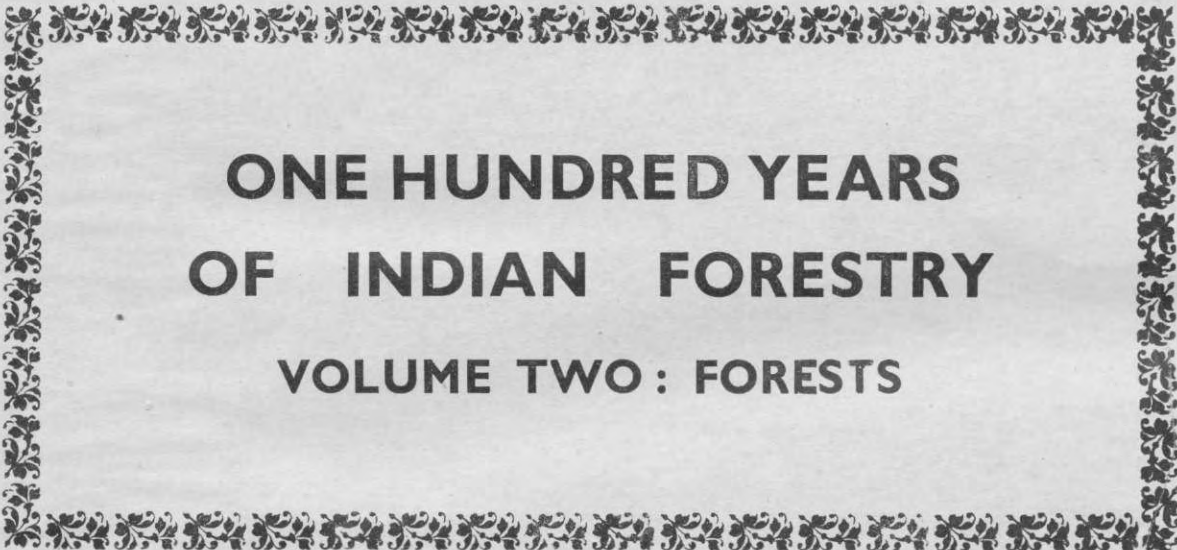
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