

# **CONSERVATION IN INDIA**

**Proceedings  
of the**

**SPECIAL MEETING OF THE STANDING COMMITTEE  
OF THE INDIAN BOARD FOR WILD LIFE**

**held at**

**Vigyan Bhavan, New Delhi, 24 November, 1965  
in order to meet the IUCN delegation which passed through  
India on its way to Bangkok**



**International Union  
for Conservation of Nature and Natural Resources  
Morges, Switzerland  
1969**

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The International Union for Conservation of Nature and Natural Resources (IUCN) was founded in 1948 and has its headquarters in Morges, Switzerland; it is an independent international body whose membership comprises states, irrespective of their political and social systems, government departments and private institutions as well as international organizations. It represents those who are concerned at man's modification of the natural environment through the rapidity of urban and industrial development and the excessive exploitation of the earth's natural resources, upon which rest the foundations of his survival. IUCN's main purpose is to promote or support action which will ensure the perpetuation of wild nature and natural resources on a world-wide basis, not only for their intrinsic cultural or scientific values but also for the long-term economic and social welfare of mankind.

This objective can be achieved through active conservation programmes for the wise use of natural resources in areas where the flora and fauna are of particular importance and where the landscape is especially beautiful or striking, or of historical, cultural or scientific significance. IUCN believes that its aims can be achieved most effectively by international effort in cooperation with other international agencies such as UNESCO and FAO.

The World Wildlife Fund (WWF) is an international charitable foundation for saving the world's wildlife and wild places. It was established in 1961 under Swiss law and shares joint headquarters with the International Union for Conservation of Nature and Natural Resources (IUCN). Its aim is to support the conservation of nature in all its forms (landscape, soil, water, flora and fauna) by raising funds and allocating them to projects, by publicity, and the education of the general public and young people in particular. For all these activities it takes scientific and technical advice from IUCN.

Although WWF may occasionally conduct its own field operations, it tries as much as possible to work through competent specialists or local organizations.

Among WWF projects financial support for IUCN and for the International Council for Bird Preservation (ICBP) have highest priority, in order to enable these bodies to build up the vital scientific and technical basis for world conservation and specific projects. Other projects cover a very wide range from education, ecological studies and surveys, to the establishment and management of areas as national parks and reserves and emergency programmes for the safeguarding of animal and plant species threatened with extinction.

WWF's fund-raising and publicity activities are mainly carried out by National Appeals in a number of countries, and its international governing body is made up of prominent personalities in many fields.

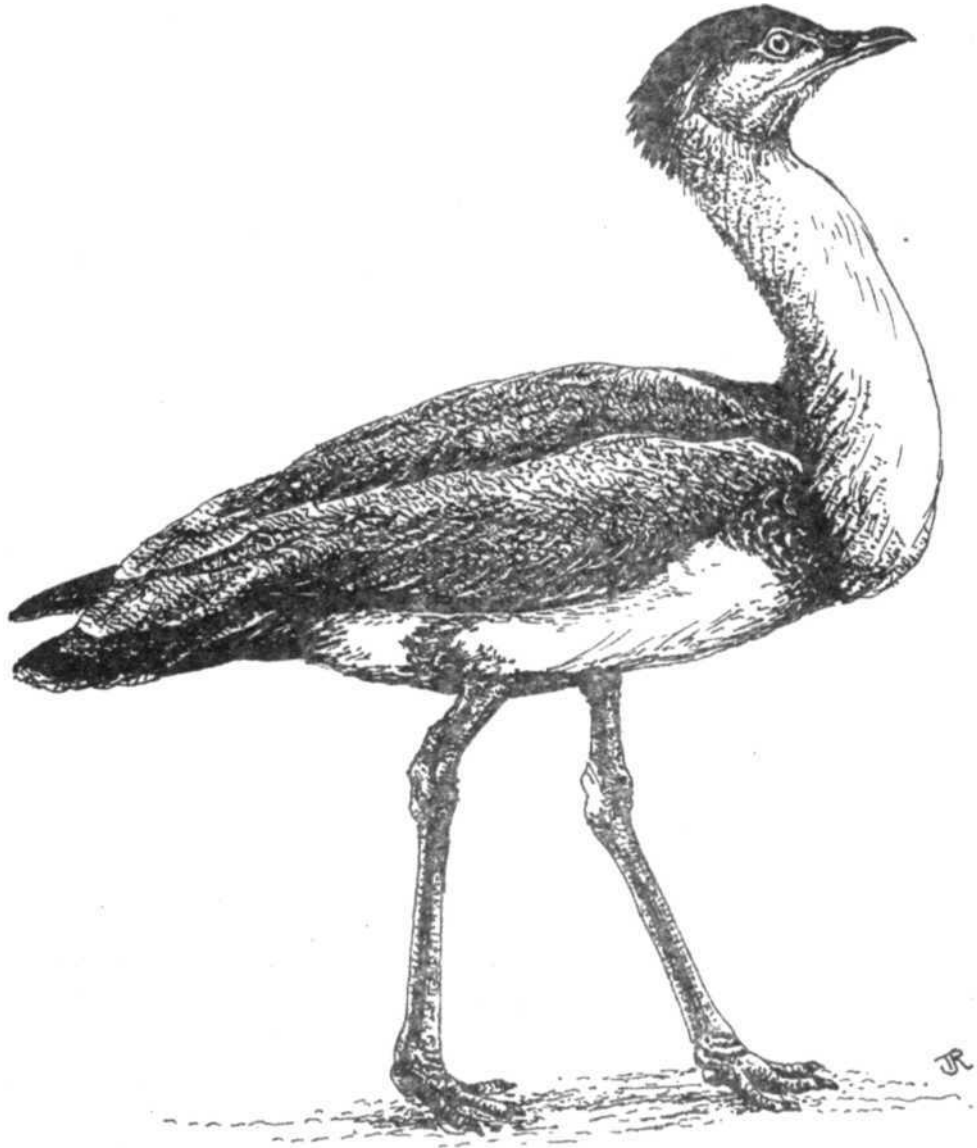


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1. The following were present :

Shri Shah Nawaz Khan, Deputy Minister for  
Agriculture Chairman

Shri K.S. Dharmakumarsinhji Vice-Chairman

Prof. M.S. Thacker, Member (N.R.) Planning Commission, New Delhi  
Prof. F. Bourlière, President of IUCN and Convenor of the  
Terrestrial Productivity Section of the International  
Biological Programme

Sir Hugh F.I. Elliott, General Secretary of IUCN

Dr. E.H. Graham, Chairman of IUCN Commission on Biology and  
Deputy Convenor of the Conservation (Terrestrial) Section  
of the International Biological Programme

Mr. Peter Scott, Chairman of IUCN's Survival Service  
Commission and Vice-President, World Wildlife Fund

Prof. J.-P. Harroy, Vice-Chairman of IUCN's International  
Commission on National Parks

Mr. J. Goudswaard, Secretary of IUCN's Commission on Education

Col. Jack Vincent, Secretary, IUCN's Survival Service  
Commission and Liaison Officer with IUCN of the International  
Council for Bird Preservation

Mr. R.S.R. Fitter, IUCN Survival Service Commission

Dr. F. Fraser Darling, IUCN Consultant and Vice-President  
of the Conservation Foundation

Dr. Lee M. Talbot, Executive Officer of IUCN's South East Asia  
Project and regional representative of the Conservation  
(Terrestrial) Section of the International Biological Programme

Mr. T. Riney, F.A.O. Forestry Officer (Wildlife Management)

Mr. Noel M. Simon, Information Officer of IUCN

Miss J. Fisher

Mrs. Fitter

Shri A.B. Guha, Adviser (R) Planning Commission

Shri J.C. Mathur, Joint Secretary (A), Department of Agriculture

His Highness Maharaja P.K. Deo, Member of Parliament

His Highness Maharaja Fateh Singh P. Gaekwad of Baroda

Shri V.C. Shukle, Member of Parliament

Shri R.P. Sinha, Member of Parliament

His Highness Maharaja Pratap Singh of Nabha

Mr. B.P. Gee, Regional Secretary of the Indian Board for Wildlife  
for Eastern Region

General H. Williams, Consultant (C.E.), Planning Commission

Shri M.D. Chaturvedi

Dr. Salim Ali

Shri D.H. Kulkarni, Deputy Director, UNESCO, Regional Officer

Mrs. O.M. Saznova, UNESCO Regional Officer

Shri R.C. Soni, Chief Conservator of Forests

Shri K.P. Sagreiya, Senior Specialist (Forest Resources),  
Planning Commission

Mr. J. Juan Spillet, Wildlife Management Expert

Prof. B.R. Seshachar, Head of the Zoology Department, Delhi  
University

Shri F.C. Badhwar

Capt. S.K. Chatterjee, Chairman, Delhi Bird Watchers' Society

Mrs. Usha Ganguly

Mr. Zafar Futehally, Honorary Secretary, Bombay Natural History  
Society

Shri T. Khushal Singh, Director, Department of Tourism

Shri S.K. Kooka, Commercial Director, Air India International

Shri G.C. Jain, Honorary Director, Indian Ornithological Garden

Shri B.V. Ramanjulu. Director, Indian Ornithological Garden

Shri N.D. Bachkheti, Director, Delhi Zoological Park

Shri M.A. Rashid, Deputy Conservator of Forests, Gujarat State,  
Baroda

Shri Angad Singh, Deputy Conservator of Wildlife, Punjab,  
Chandigarh

Shri K.L. Mehta, Wildlife Warden.

Shri S.S. Negi, Senior Vice-President, Wildlife Preservation  
Society of India

Dr. R.N. Mishra, Honorary Secretary, Wildlife Preservation  
Society of India

Shri M. Subramanian, Deputy Secretary to the Government of  
India and Secretary, Indian Board for Wildlife

Shri S.N. Tulsiani, Under Secretary to the Government of India

Shri A. Oswald, Assistant Inspector General of Forests



PROCEEDINGS

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2. The meeting commenced with an address by Shri Shah Nawaz Khan, Union Deputy Minister for Agriculture, who welcomed the foreign guests and also expressed his deep regret at the absence of Maharaja of Mysore, the Chairman of the Indian Board for Wild Life, who could not attend the meeting because of his indisposition.

In the course of his address, the Minister referred to the old traditions of wild life preservation in India and briefly narrated the progress made in the field of wild life preservation in the country during the past few decades. He also touched upon certain important problems relating to wild life preservation which presently faced the country.

3. After the Minister's address, the President of the International Union for Conservation of Nature, Prof. F. Bourlière, thanked the Minister on behalf of the IUCN delegation for arranging the meeting and providing them with an opportunity to discuss matters of mutual interest with the Indian experts.

4. This was followed by consideration of the agenda items.

Agenda item No. 1.1.1. - The present administrative set up for wild life and nature conservation in India.

5. Shri Soni, Chief Conservator of Forests, Uttar Pradesh, initiated the discussion on this subject. He explained that forests and wild life are State subjects under the charge of the State Forest Departments and from the organizational point of view the States should be divided into two categories viz., (1) those which have a separate organization under the Forest Departments to look after wild life preservation and (2) those where there is no separate organization for this purpose. On the whole, he favoured the organizational set up of the former type to ensure better and more effective preservation of wild life in the country. He concluded his speech with the optimistic remark that wild life in India is better looked after today than it was a decade or two ago.

Agenda item No. 1.2. - Consideration of Resolutions.

These are quoted in full on page

Agenda item No. 1.3. - Wildlife situation in various regions of the country.

6. Under this item comments were made by some participants on the wildlife situation in different regions of the country. They were unanimous in their concern about the deteriorating wildlife situation in the country and were of the view that unless vigorous measures were taken immediately to enforce Wild Life Laws and stop the destruction of wildlife habitat, the country's wildlife would soon disappear.

7. Shri M.D. Ghaturvedi traced the history of wildlife legislation in India and reiterated that the position of wildlife in India was not so discouraging as was generally mentioned in various quarters,

Agenda item No. 1.4. - U.N. List of National Parks and equivalent Reserves in so far as it pertains to India.

8. Thereafter Prof, J.-P. Harroy of the IUCN delegation initiated discussion on the list of national parks and equivalent reserves which is being compiled by the IUCN in compliance with a recommendation of the U.N., in so far as it concerned India. He explained briefly that the object of preparing this list was inter-alia to lay down the principles and norms on the basis of which suitable areas were to be given the status of national parks or equivalent reserves in different parts of the world so that there would be greater international uniformity in defining and recognising such areas. In this context, he referred to the Memorandum of "Enquiry of the United Nations on National Parks and Equivalent Reserves" prepared by the IUCN and circulated to all countries, which laid down the standards for National Parks and equivalent reserves. Prof. Harroy gratefully acknowledged the whole-hearted cooperation which he received from India in the compilation of this task.

Agenda item No. 2.1. - Economic value of wildlife.

9. The following papers were read

- |   |   |
|---|---|
| 2.1.1. Birds and Agriculture                                    | by Dr. Salim Ali                            |
| 2.1.2. Food from Sporting birds and revenue from licences, etc. | by Mr. H. Abdulali, and Shri B.V. Ramanjulu |
| 2.1.3. Tourist Revenues   | by Shri S.K. Kooka<br>(see page 43)         |

10. The salient points touched upon by the authors in these papers are given below :

Dr. Salim Ali - Birds and Agriculture.

11. The lack of general knowledge about the birds among the people was, according to the author, the main obstacle in the effective preservation of bird life in India. While some birds like parakeets cause damage to food crops, many others are useful to the crops..

12. He pointed out that the best way to ensure the preservation of bird life is to bring home to the people the useful role that birds play in controlling insect pests both in agriculture and forestry. Water birds like storks and herons fertilize their feeding grounds, which are usually paddy fields, with their excreta; the paddy fields around the Vedanthangal Bird Sanctuary in Madras State are the best example.

13. He stressed the need for scientific research in economic ornithology both in the field and in the laboratory and felt that research cells in this field could be started in Agricultural Universities, He also advocated strict enforcement of our wildlife preservation laws, and adequate watch and ward staff for the National Parks and Wildlife Sanctuaries.

Shri B.V. Ramanjulu - Food from sporting birds and revenue from gun licences, etc.

14. Shri Ramanjulu spoke of the importance of food from game birds in the context of the current food shortage. He mentioned that in other parts of the world, some rare species of birds were saved from extinction by being bred in aviaries and then set free. In this context he referred to the remarkable work done by Mr. Peter Scott at his Severn Wild Fowl Trust in England.

15. He also referred to the very useful role which birds play in controlling the insect pests to the benefit of agriculture and he stressed the necessity for stocking the country with many species of game birds. He also spoke on game farming as a cash crop which was paying rich dividends in other countries. He cited the following species of birds which could be easily and usefully farmed: the Japanese quail; pheasants, particularly the Ring-necked pheasants; the Bob-white quail, etc.

16. He mentioned the useful work done in this field by Dr. Gardiner Bump, who collected large number of black partridges, grey partridges and red jungle fowl from India for introduction in the U.S.A.

Agriculturists, military farms, and the Remount establishments could also do useful work in this direction. Breeding in zoos, he felt, was more important from the point of view of perpetuation of the threatened species than it was from that of game farming.

17. At the request of the Chairman, Shri Badhwar spoke on the role of game farms in the preservation of wildlife. He said that in Africa, considerable work is being done in this field, but in India a beginning had yet to be made. Institutions like regimental centres, were showing interest in these game farms.

Shri S.K. Kooka - Tourist Revenues.

18. Shri Kooka spoke of the rapid pace at which wildlife was being destroyed in this country and he held the poachers, particularly those possessing weapons ostensibly for crop protection, responsible for this. He suggested that the nomadic tribes should be weaned away from poaching by encouraging them to adopt a settled way of life. He drew attention to the potentially rich source of foreign exchange which our National Parks and Sanctuaries offered if they were developed to provide internationally accepted standards of facilities for accommodation, transport, boarding, etc. But a prerequisite for this is the preservation of wildlife in general. He stressed that once wildlife disappeared it was not possible to bring it back and urgent steps were, therefore, necessary to protect what existed today.

Agenda item No. 2.2. - Scientific value of wildlife.

19. Prof. Bourlière mentioned that India had an important place not only in Asia but in the whole world so far as areas of importance from the point of view of the natural habitats were concerned. From Himalayas to Cape Comorin, there were excellent examples of a large number of biotic communities - almost every type of natural habitat existing in tropical areas. These areas are inhabited by thousands of plants, animals and insects of great scientific value.

20. The importance of the preservation of natural habitats of biotic communities, which are more or less stable especially in the tropics and would be lost for ever if once destroyed, had to be recognized. It was for this reason that not only the IUCN but also the Conservation Section of International Biological Programme was so keenly interested in establishing, as soon as possible, a worldwide network of natural habitats. Prof. Bourlière mentioned that keeping this important aspect in view, the preservation of national parks was an urgent matter. Wildlife Sanctuaries and National Parks are irreplaceable outdoor laboratories of the work. Such laboratories must be spotted and preserved in large numbers for the benefit of mankind.

Agenda item No. 2.3. - Cultural and aesthetic values of wildlife.

21. Mr. Peter Scott spoke briefly on "Cultural and Aesthetic Values of Wildlife". He stressed the following points :

- a) The ethical question of preservation of species.
- b) The aesthetic value of nature.
- c) The economic value.

22. He said that Indians with their traditional reverence for all life were in a better position to appreciate these values of wildlife and would do everything possible to ensure that the rich and unique wildlife heritage of this country is passed into posterity intact.

Agenda item No. 2.4. - Relationship between Conservation and International Biological Programme.

23. Dr. Graham of the IUCN delegation, speaking on this subject mentioned that the International Biological Programme was a new programme and was yet at the planning stage. The International Council of Scientific Unions has recently recommended that more emphasis should be laid on research in biological aspects of nature and natural phenomena, which has so far received little attention. The International Biological Programme now involved some 30 countries, each of which had established a National Committee for the International Biological Programme. The programme itself has been planned on a 5 year basis. He mentioned that the Conservation Section of IBP is interested chiefly in the protection of environmental types of natural complexes, eco-systems, which exist all over the world and that it was extremely important that the scientific effort in this field be carried out in close cooperation with the Government agencies so that the best results could be achieved.

Agenda item No. 2.5. - Conservation role of other International Organizations.

24. Sir Hugh Elliott spoke on "Conservation role of other International Organizations". He mentioned some international organizations which supported nature conservation either directly or indirectly. Among these were the following :

- 1) IUCN of which the Indian Board for Wildlife was a member.
- 2) International Council for Bird Preservation.
- 3) FAO of the United Nations which had recently started a wildlife wing,
- 4) UNESCO which is interested in nature conservation from the educational point of view.
- 5) Fauna Preservation Society of the British Empire which had now become an international organization with an international board.
- 6) The International Union of the Directors of Zoological Gardens.
- 7) The International Youth Federation.

25. There were also a large number of regional organizations for the protection of fauna. Such organizations also played an important role in the cause of wildlife preservation.

Agenda item No. 2.6. - Administrative Liaison between the Secretary of the wildlife wing at the Centre and the States.

26. There was no discussion on this Agenda item.

Agenda item No. 2.7. - The Role of Voluntary Bodies.

27. Mr. Z. Futehally then spoke on "the role of voluntary bodies". He said that the role of such bodies could conveniently be divided into three sections viz., (i) publicity, (ii) scientific work and (iii) the administrative support which they could give to the Government. On the question of publicity, he mentioned the good work which had been done by various private organizations interested in wildlife such as the Bombay Natural History Society of India. Due to paucity of funds these bodies were, however, finding it very difficult to bring out new publications on wildlife and revise old ones which were in great demand. He spoke of the need for Government assistance in this sphere particularly in bringing out books suitable for children. He was supported in this by other members.

28. Mr. Futehally then referred to the services being rendered by these societies in the cause of scientific research. In particular he mentioned the advice that the Bombay Natural History Society has been providing to the Government of Maharashtra regarding preservation of wildlife habitats.

29. In the sphere of administrative support to Government, he said that honorary game wardens could play an important role in the preservation of wildlife. These game wardens could be provided by voluntary organizations.

Agenda item No. 2.8. - The preservation of habitats and marshes, etc. and creation of consultative machinery to decide land usage.

30. Speaking on this subject, Mr. Gee said that the preservation of habitats in India has been receiving its due attention and there were a large number of wildlife sanctuaries and national parks in the country. There might, however, be some specific habitats which were not covered by the existing sanctuaries or national parks. An inventory of wildlife in India was, therefore, being prepared and when this was ready it would be possible to know which habitat types had not been covered and every effort would then be made to preserve such habitats by declaring them as sanctuaries or national parks. The I.B.W.L. had recommended the creation of a large number of sanctuaries and national parks. The implementation of this recommendation would facilitate the protection of all the different habitat types in India. He felt that it was important that the first priority should be given to keeping the existing National Parks and Wildlife Sanctuaries in good condition. In some of them grazing by domestic cattle was a problem, which needed to be strictly controlled,

31. Referring to marshlands being reclaimed, he emphasised the need for a careful evaluation of the long-term benefits to be derived from their preservation which may easily outweigh the immediate benefits.

32. He also referred to the effects on the natural habitat resulting from submergence under irrigation and hydro projects. He felt that not enough attention had been given to the protection of catchment areas in these developmental projects. This is necessary in order to prevent the silting of the reservoirs and help in the conservation of soil and also to provide refuge to the wildlife. He stressed the need of consulting competent biologists in the planning of these projects in the same manner as experts in other fields are consulted. In other countries this was often done.

33. Mr. Gee referred to the need for the setting up of a suitable machinery to decide about the land use and also stressed the necessity of associating an experienced biologist with decisions affecting land use. Such a biologist should be located in the Central Government from where he would also be able to advise the State Governments.

Agenda item No. 3 - Publicity.

34. Shri Soni spoke on the necessity for wide and extensive publicity to bring home to the people the need for wildlife preservation. He expressed the opinion that publicity should be organized on three fronts viz., (i) the introduction of suitable lessons on wildlife/nature conservation in books for school children at the primary stage in collaboration with the Education Department; (ii) the publication of books and other publicity literature on the economic, scientific and biological values of wildlife as is being done by the Bombay Natural History Society; (iii) publicity through radio and press as well as through lectures by eminent naturalists in Universities and at other gatherings.

Agenda item No. 4 - New role of Forest Department.

35. Shri M.D. Chaturvedi then spoke on the "New role of Forest Departments". He emphasised that the evolution of wildlife in a given area depended on its animate and inanimate environments. Man, according to him, constituted an important part of the animate environments of wildlife.

36. Speaking on the role of Forest Officers in relation to the preservation of wildlife, he explained that it was the Forest Officers in India who are the effective guardians of wildlife. He suggested that special wildlife courses be laid down for the Forest Officers as part of their training at the Forest Colleges in India. This, he felt, would equip the Forest Officers for the discharge of their duties in relation to wildlife preservation. He concluded with the remark that wildlife in India particularly in forest regions was well protected and was not in danger of extermination.

37. The Chairman then gave a resume of the wildlife situation in the country. He said that while he agreed that the wildlife situation in reserved forests was satisfactory, he was not fully satisfied with the overall position in the country.



38. He then briefly traced the history of wildlife preservation in India beginning with the situation at the end of the Second World War and stated how in 1952, the Government of India set up an Indian Board for Wild Life to advise on matters pertaining to wildlife. He also briefly stated the constitution and functions, etc. of the I.B.W.L. and its Standing Committee, Bird Wing and Zoo Wing. He explained that almost all the State Governments had their own State Wildlife Boards constituted on the pattern of the Central Wildlife Board.

39. The Chairman then explained that the Constitution of India had clearly defined the spheres of authority of the Union Government and its constituent Units. The preservation of wildlife was completely within the sphere of responsibility of the States.

40. Before the conclusion of the meeting, the members of the IUCN team offered their comments on various topics discussed earlier. The comments made by them are given below topic-wise :

(1) Scientific Research and Habitat Preservation:

41. Prof. Bourlière, Messrs. F. Fraser Darling and J.-P. Harroy touched upon this subject in their comments. Prof. Bourlière particularly laid stress on studies in economic zoology which he suggested could be sub-divided into the following :

- (a) Economic biology (including game management especially from a veterinary point of view)
- (b) Ornithology
- (c) Fish management
- (d) Entomology.

42. He also commended the setting up of game farms in India.

43. Mr. Harroy, while dealing with this subject, stressed the need for adequate financial provision for research, particularly applied research, and also mentioned that funds for this purpose could be available from international sources. He further stated that the protection of habitats was not only necessary for maintaining biological equilibrium but also because it had far reaching implications for protecting the welfare of over-populated countries like India. Referring to the activities of IBP, he explained that in Africa 2.3 million acres were being protected for large scale migration of animals and birds in order to study the part played by human interference in maintenance of biological equilibrium.

(2) FAO and Wildlife:

44. Mr. Riney of the FAO spoke on the activities of the FAO in the field of wildlife management and preservation. He mentioned that the FAO helped member countries with money and the services of experts to implement various wildlife projects. Most of the projects which the Wildlife Wing of the FAO is handling, relate to small mammals, wildlife education, general surveys, legislation, administration and tourist management. To provide help for such projects it was necessary to have field trips, arrange meetings and establish regional working parties. FAO operates through bilateral agencies because they are in a position to coordinate the requests received for experts and the offers of the services of experts. Mr. Riney said that he was very happy that some of the projects taken up by FAO had yielded useful results.

(3) Wildlife Education Agencies and Publicity:

45. In their comments, Messrs. Fraser Darling, Talbot, Fitter and Scott referred to the importance of education and publicity in wildlife. Mr. Fraser Darling stressed the need for making children conscious of nature conservation. Mr. Talbot emphasised the necessity for proper training at different levels for personnel managing wildlife and also ensuring job opportunities in their particular fields so that the training could be effectively followed up by field work.

46. Mr. Fitter laid stress on the right type of publicity methods and advocated the need for an illustrated magazine with a powerful editorial Board and an energetic editor. Mr. Scott, in his turn, emphasised the necessity for books which would be useful to people, particularly tourists, to assist them in the identification of animals and birds. He also referred to the "Red Book" on endangered and rare species which had been brought out by the Survival Service Commission of the IUCN. This book contained 11 mammals and 16 birds from India.\*

\* Now 16 and 7 respectively. (October, 1968)

(4) Tourism and Natural Parks:

47. Messrs. Talbot, Fitter, Vincent and Scott offered their comments on this subject. Messrs. Talbot, Fitter and Vincent referred to the unexplored tourist potential of the National Parks and Wildlife Sanctuaries in the S.E. region including India. Mr. Talbot further referred to the necessity for capital investment in this field to provide various tourist amenities such as accommodation, roads, etc. in the National Parks and Sanctuaries. Messrs. Vincent and Scott also laid stress on this point and the latter also indicated the possibility of financial assistance from World Wildlife Fund for development of National Parks and Wildlife Sanctuaries so that a wider range of such facilities as transport and photography, etc. could be provided. He also commended the use of publicity media and films for attracting foreign tourists.

(5) Translocation of Species:

48. Prof. Bourlière and Mr. Talbot both mentioned that great caution was necessary before translocation of wildlife is attempted but when translocation was based on thorough ecological studies, it offered definite advantages as has been the experience of some countries in Africa.

(6) Wildlife Organization at the Centre:

49. Sir Hugh Elliott and Mr. Simon spoke on this subject. Sir Hugh stressed the necessity for a strong wildlife wing in the Department of Agriculture at the Centre with adequate financial support. Mr. Simon felt that the I.B.W.L. should have executive powers.

50. Prof. Bourlière concluded the suggestions made by the IUCN delegation by emphasising the need for frequent personal contacts among wildlife enthusiasts, such as this meeting of the Standing Committee. He was confident that in future such meetings between the IUCN and Indian Organizations would be frequent.

51. On behalf of the I.B.W.L., the Chairman then thanked the IUCN delegates for having consented to the stop-over in Delhi to attend this meeting and for their valuable suggestions, which, he assured them, would receive the Government's attention.

52. Thereafter, the two resolutions mentioned in Agenda item No. 1.2. were taken up and unanimously passed.

53. The meeting concluded with a vote of thanks to the Chair by Shri T. Khushal Singh of the Department of Tourism.

TEXT OF THE RESOLUTIONS

A. This meeting endorses the various resolutions and recommendations made at the First World Conference of National Parks held at Seattle, Washington, from June 30th to July 7th, 1962, in so far as they apply to India and draws attention in particular to RECOMMENDATION No. 3 which says inter-alia that "there is an urgent need to constitute on a world scale a systematic collection of type habitats as varied and representative as possible which could be permanently protected and to serve as standards for the future, and . . . . . that the appropriate status for these type habitats where possible should be that of strict nature reserves".

Moved by François Bourlière  
Seconded by Hari Singh I.G.F.

B. This meeting endorses the recommendations made at the project MAR Conference which took place from 12th to 17th November, 1962 in France, which was sponsored by the I.U.C.N., the International Council for Bird Preservation and the International Wildfowl Research Bureau, in so far as they apply to India, and draws attention particularly to RECOMMENDATION II which say inter-alia :

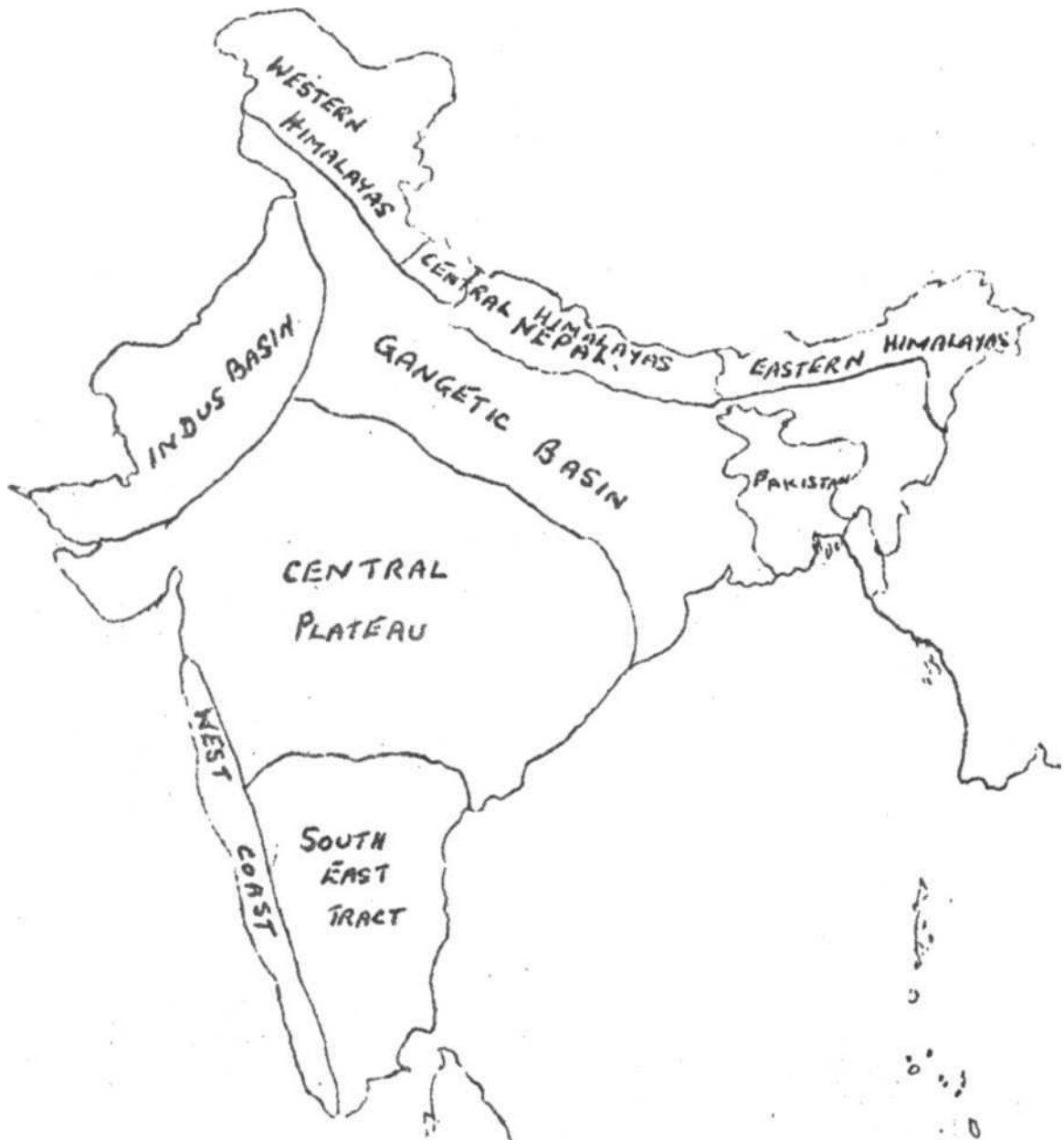
"Whereas wetlands by their natural biological productivity and by their educational, scientific, cultural, economic and recreational values constitute habitats of the greatest importance and interest to humanity and whereas, as a result of drainage, industrialisation and other changes in land-use these regions are becoming scarcer . . . . . the MAR Conference RECOMMENDS that Governments make provision for wetland reserves in all national and regional development plans.....

Further resolved that the I.U.C.N. booklet on "OUR LIQUID ASSETS" be sent to the appropriate Governmental and Municipal authorities, with a view to the proper appreciation of these assets, and their preservation if justifiable in the light of the considerations outlined at the MAR Conference - attempts should be made to evaluate the intangible benefits to society against the economic advantages accruing from their destruction."

Moved by Peter Scott  
Seconded by E.P. Gee

SKETCH MAP OF INDIA

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WILDLIFE MANAGEMENT

IN INDIA

by M.D. Chaturvedi

What matters is not the trophy but the race; not the quarry, but the chase.

---

I. Distribution of Wildlife.

A reference to the birds and animals living in ecological balance with their surroundings provides the background for wildlife management. The environment, both animate and inanimate, determines the evolution of animal life in a given region. There is no better indicator of environment than vegetation which reflects reaction to the climatic, edaphic, and biotic factors. In its ultimate analysis, vegetation, on which all wildlife depends directly or indirectly for its sustenance, determines the protective colouration, the size, the character and the distribution of birds and animals. It is their habitat from which animals derive their habits.

The physical regions distinguished in India for the description of its vegetation, provide the best basis for a detailed consideration of its rich and varied wildlife. No less than 500 species of mammals occur in the country. Of these, the Flying Lemur, which bears the same relation to the shrews as the flying squirrel does to the squirrels, and the Scaly Ant-eater reminiscent of reptiles, constitute breath taking curiosities. Another celebrity is the little Painted Bat (Kerivula picta) with its vividly coloured vermilion and black wings (18). The regional distribution of wildlife is outlined below :

(1) The Deccan.

a) The West Coast.

The luxuriant rain forest and sholas support a rich and varied wildlife. Species characteristic of this wet region (rainfall : 150 to 200 inches) are the Nilgiri langur (Presbytis johnii), the lion-tailed macaque (Macaca silenus), the Nilgiri brown and the striped neck mongoose, the Malabar civet, and the spiny mouse. The Himalayan fauna (e.g. the Tahr, the pine marten and the European otter) is represented high up in the Nilgiris, suggesting former links during the glacial epoch, and subsequent isolation. Other mammals of this tract are the elephant, the tiger and the panther. Due to high humidity the panther exhibits marked melanism.

b) The South-east Tract.

In the low scrub, and open grasslands dotted with xerophytic vegetation (rainfall below 30 inches), herds of gazelles and antelopes abound. The common associates of antelopes are the common jungle cat, the common fox, the common mongoose, the Indian wolf, the palm squirrel, the hare and a variety of field-rats. In Mysore and Hyderabad, where rainfall is about 35 inches, a much richer fauna consisting of the spotted deer, the wild dog, the sambhar, the sloth bear, the Indian bison, the elephant and the hyaena, is met with. The cheetah (the hunting leopard) once common in this tract is now extinct.

c) The Central Plateau.

The dry type of forest of these highlands supports animal life akin to the southeast tract referred to above. With the increase in rainfall (40 to 50 inches), the character of vegetation changes to what is known as the monsoon forest which is the home of the true Indian fauna comprising the spotted deer, the nilgai, the blackbuck and the four-horned antelope. These typically Indian mammals do not occur anywhere else outside India. The Indian bison, the sambhar and the muntjac occur both in India and in Southeast Asia, Further east of Nagpur, where moister conditions prevail, we have, in addition, the elephant, the wild buffalo and the swamp deer. The tiger and the panther occur throughout the Deccan, adapting themselves to their local environments. The tiger shows marked preference for forested areas. It never crossed into Ceylon. In the Madhya Pradesh one comes up against albino tigers occasionally.

(2) The Indus Basin.

The fauna of the dry and xerophytic forests of this region is reminiscent of similar forests of the Deccan. In the Rajasthan desert, however, where rainfall is of the order of 10 inches or so, one comes up against the desert cat, the desert fox, the desert hare and the desert gerbilles. On the peripheral lands, the gazelle, the muntjac and the blackbuck are common. In Junagadh (Saurashtra), we have the remnants of the Indian lion that once frequented a large tract to the east of the Aravallis.

(3) The Gangetic Basin.

The blackbuck and the gazelle occur in open and dry type of forests of this region.

With increase in the rainfall in the tarai\* and bhabar\* at the base of the Himalayas the character of vegetation changes to support the swamp deer, the hog-deer, the sambhar, the spotted deer, the muntjac, the elephant, the jackal, the wild pig, the tiger and the panther. Eastward, in the North Bengal and Assam, we have the remnants of the great one-horned rhinoceros (R. unicornis) and the buffalo, the counterpart of the bison of the south. In the evergreen rain forests of Assam, the fauna of the westcoast replicates itself faithfully including melanism among panthers.

#### (4) The Himalayas.

##### a) Western Himalayas.

While many animals of the Indus Basin such as the blackbuck, the muntjac and the gazelle work their way up to an elevation of up to about 2,000 feet, the characteristic representative fauna of the region above is the Kashmir stag, reminiscent of the European red-deer. The sambhar of the foot of the Central Himalayas is conspicuously absent. Other animals inhabiting higher elevations are the ibex, the markhor, the shapu and the snow-leopard. While the brown bear occurs in the snow ranges, lower down the black Himalayan bear is more common.

##### b) Central Himalayas.

The chain of low lying hills (Siwaliks) that runs almost parallel to the great Himalayas encloses a tract known as the 'dun' (between two mountains). This tract is endowed with a rich and varied flora and fauna that has attracted worldwide attention. The tiger, the panther, the elephant, the hyaena, the sambhar and the muntjac are common. Higher up in the Himalayas, in the 5,000 to 10,000 feet zone, the Central Himalayan animals like the ibex, the shapu, the markhor and the brown bear are conspicuously absent. Here, the Kashmir stag is replaced by the sambhar. The black Himalayan bear, the musk deer, the civet and the goral are common. The panther goes up to an elevation of 8,000 feet.

##### c) Eastern Himalayas.

In the moist Eastern Himalayas at higher elevations, the fauna assumes an Indo-Chinese character and comprises such forms as the racoon, the hog-badger, the ferret-badger, the crestless porcupine, the goral, the thamin deer and the serow. The snow leopard of the Western Himalayas is replaced by the clouded-leopard, the ounce and the marbled cat.

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\* The debris washed down by the Himalayan streams spreads out in a fan formation at the foot of the mountainous region, giving rise to a waterless tract, known as the bhabar. Water that sinks in the bhabar oozes out further south giving rise to the tarai (moist) conditions in the tract where the debris spends itself out.



It remains to be added that animals do not recognise any-physical boundaries. They exhibit considerable migration not only from one region into the other but also from and into adjoining countries.

## II. The Sanctity of Wildlife

Religious sentiment has played a considerable part in enshrining wildlife in the Hindu pantheon. No less than 30 mammals are mentioned in the Hindu scriptures. Thus, the elephant (Ganesha), the mount of Indra, and the guardian of the 8 celestial points of the compass, has been deified and allotted an annual festival (Ganesh-Chaturthi) in the Hindu Calendar. The monkey is revered throughout the land for the part its forbears played in Rama's campaign against Ravana. Vishnu is said to have incarnated himself in the garb of the lion and the wild boar. The lion is also the traditional mount of the Goddess Kali and appears as a guardian at many a temple in India. The mongoose appears as wise preceptor of King Yudhishtira, and the deer is associated with Brahma, the creator. The Buddhist chapter of the Indian mythology refers to the tiger. Among the birds, mention is made of the swan, the eagle, the crow and the kite (18).

## III. Wildlife, a Wasting Asset

Wildlife enjoyed in the past a measure of protection by virtue of the inaccessibility of the forest which sustained and sheltered it. The depredations of forest tribes with their traditional bows and arrows, nets and snares, drives and dogs, were hardly noticeable except on the fringes of the forest. Wild animals continued their uneventful existence until the turn of the 19th century when the British appeared on the scene with their modern weapons, and what was worse, with a licentious lust for killing which passed for sportsmanship those days. The wildlife of the country had to contend with an attack on two fronts. Vast forest areas that provided a haven for wildlife were given away for a song to enterprising adventurers, for raising tea, coffee, rubber, and rice for labour engaged on plantations. The forest succumbed to the irresistible pressure of planters and local population, and with it, the wildlife it supported. With its cover gone, wildlife fell an easy prey to high velocity rifles and double-barrelled guns in the hands of trigger-happy hunters. The dawn of the twentieth century witnessed a systematic destruction of wildlife brought about by the opening up of the forest, the arrival of the ubiquitous jeep and the invention of blinding flashlights. The area negotiated by the jungle folks increased as more roads were built, and opportunities for the sale of venison increased. Netted quails and partridges found favour in many fashionable restaurants in the country.

Unable to fend for themselves many species were driven to the verge of extinction. The Indian lion, which for its bravery, invincibility and regal gait, inspired the priest, the poet and the painter alike, was wiped out of existence by the so-called British sportsman of the East Indian Company. Up to the beginning of the 19th century, the lion stalked the Indus Plain and the Central India Highlands covering an area of about ¼ million square miles. By about 1850, the lion was well on the way out, despite repeated protests one reads in the sporting journals of the time.\* The lion is confined today to a small tract (550 square miles) viz. the Gir forest in Saurashtra. Like most protected monuments of the country, the lion owes its existence to the foresight of Lord Curzon the celebrated Viceroy of India at the turn of the 20th century. During the post-independence era a second home for the lion has been found in the Benares Division of Uttar Pradesh.

The hunting leopard (the cheetah) followed suit. Once a pet of the Ruling Princes in their blackbuck hunts, it is now as dead as the dodo. Its unfortunate resemblance with the wily panther proved its undoing. The Asiatic two-horned rhinoceros (R. sumatrensis) of Assam, and the lesser one-horned rhinoceros (R. sondaicus) of the Sunderbans have gone. The great one-horned rhinoceros (R. unicornis) has been saved from the hunters of its horns, prized as valuable aphrodisiac, by declaring it a protected animal and nursing it in the Kaziranga Sanctuary in Assam. In West Pakistan, the days of the straight-horned markhor are numbered. The urial of the Punjab is likewise threatened. The wild buffalo is no longer to be seen in areas to the east of the Godavri. The pink-headed duck is gone for good. The monal, the tragopan and the peacock are still with us because a rigid control on the export of their feathers has been enforced. Otherwise they would have disappeared as would the Bird of Paradise from New Guinea.

It may be noted that during the last 2,000 years, the world has lost 77 species of mammals. Of these, 39% have disappeared since the turn of the 20th century (24.1). It is not sufficiently realized that once a species, more particularly a gregarious one, begins to go downhill, its rehabilitation becomes extremely difficult. And, yet there is no natural resource that reacts so readily to protection as wildlife, provided it is not allowed to cross the critical stage when recovery becomes difficult, if not impossible.

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\* The Bengal Sporting Magazine (1833-41); the Sporting Review 1856; the Oriental Sporting Magazine, 1866.

In India, the following species have already entered a critical stage of their existence :

a) Mammals

- (i) Snow and clouded leopards.
- (ii) Indian wild ass.
- (iii) Kashmir stag.
- (iv) Musk deer.
- (v) Markhor (Kashmir).
- (vi) Thamin, the brow-antlered deer of Manipur.
- (vii) Pigmy hog.

b) Birds

- (i) Great Indian bustard.
- (ii) Monal.
- (iii) White-winged duck.

The list is not exhaustive. Some game animals have reached the verge of extinction in a given locality, but hold their own in another one.

#### IV. Why Preserve Wildlife?

In her rich and varied wildlife, India has a precious heritage of which she may justly be proud. It behoves us to act as a custodian of this asset and pass it on to the generations to come. We have seen our wildlife is woven into the mythology and the folklore of the land. It finds a place of pride in the Hindu Scriptures. The lion, the elephant and the bull are depicted in the temples of India. To signify their fearlessness and indomitable courage, the proud and the powerful sought in the past to shine in the reflected glory of the lion, Thus the founder of the Moghul empire in India, Zahir Uddin Mohammad assumed the title of Babar (the lion). The Pathan King who drove Babar's heir to the throne (Humayun) from Delhi, called himself Sher-Shah(the Lion King). It was the lion which lent fanciful courage to the warriors of India who styled themselves as Singhs (lions). The national emblem of India carries 3 lions.

The cultural value of wildlife can be scarcely denied. Our forests will be dull and dismal without their sprightly denizens; the countryside will be bleak and bare without its colourful birdlife. What would India be without her noble lion and the royal tiger, without the proud peacock and the painted pheasant, without the mighty buffalo and the colossal rhino, without the stately elephant and the sleek deer? The study of wildlife is no less rewarding to the biologist. Its ecological balance that obtains in Nature may not be disturbed with impunity. The Middle East, once a cradle of civilization, is today largely a desolate desert. Stripped of its natural defences that it had in its tree growth, this tract has lost all its wildlife. There are a hundred names in Arabic for the lion, but no lion. The forest and its fauna constitute the natural environment of Man. The least little upset in its balance is apt to have far reaching consequences which redound on him in the long run.

Quite apart from providing opportunities for recreation and healthy sport that tests the prowess, the patience and the perseverance of the hunter, wildlife has no mean role to perform in the general economy of the countryside. Fishing and shooting provide food and constitute a source of income to the State, Animals fetch fair prices from the zoos, The bird-life keeps pests and insects under control. In addition, wildlife provides a tourist attraction which no country may spurn. The income from the safaris in Africa and the shikaris in India is quite considerable. Some of the animal products are renowned for their medicinal value, e.g. musk, insulin, etc.

#### V. Man and his Environment

The clash between the interests of Man and Animals must be resolved in a rational manner, Wildlife management does by no means envisage the preservation of all animals regardless of their role in the economy of the countryside. Predators that destroy the field crops and prey upon other animals have to be kept under control. The claim of the forest which supports wildlife rests on both the physical and economic grounds. Reckless destruction of the forest leads to the deterioration in the physical field which adversely affects the productivity potential. With diminishing crop returns and more and more mouths to feed, the forest has to yield to the axe and the plough for raising more food. This causes further deterioration of the physical environment and consequent diminution in crop returns, resulting in even greater demand for forest land, and establishing thereby a vicious circle from which there is no escape. The solution of India's food problem lies in intensive, not in extensive agriculture. Land use in India is to be modified, therefore, in the light of the productive- protective and social roles of the forest in the balanced economy of the country. Land is to be permanently dedicated, therefore, for the maintenance of the forest and its colourful denizens.

## VI. Wildlife Legislation

The protection of wildlife was enjoined as far back as the 3rd century B.C by Emperor Asoka. On his Fifth Pillar Edict are inscribed names of birds, beasts\*, fishes and insects (?) which were to be preserved. The Edict further ordained the protection of the forest from fires. Later, the Moghul Emperors evinced considerable interest in wildlife. No one was allowed to hunt the lion except the royalty. The memoirs of Jehangir read like a treatise on wildlife.

During the British regime the destruction of wildlife at the hands of trigger happy hunters reached alarming proportions resulting in the adoption of stringent measures. In 1887, the Wild Birds and Animals Protection Act was passed. It was subsequently repealed by Act VIII of 1912. The Forest Act XVI of 1927 dealt with the regulation of hunting and fishing inside the State forests. The game laws enacted sought control over poisoning, netting, snaring and pitting of animals and birds. "Close" periods for various species were indicated. Grant of licences on payment of nominal dues was introduced. A special act for the protection of elephants was also passed. Various States enacted Game Laws of their own, e.g. the Punjab Wild Birds and Wild Animals Protection Act of 1933; the Bombay Act XXVI of 1951, etc. In the Uttar Pradesh, the National Parks Act was passed in 1934, under which the Corbett Park was originally constituted.

Poachers have always been hard to apprehend and even harder to convict. It is necessary that the burden of proof in the case of offences against game laws should be on the defence, and punishments and penalties should be adequate to prove deterrent.

Prevention of killing for trade and profit constitutes the key stone of preservation. Trade in animal products should be put down with a heavy foot. It is the fun accompanied by greed that spells destruction to wildlife. Birdlife has suffered considerable damage due to the dreadful plumage trade. The Great Indian Bustard is on the way out. While the Monal pheasant and the tragopan in the Himalayas have been saved by the ban imposed on the export of their feathers, the peacock, the black partridge, egrets, jungle cocks, paddy-birds, king fishers, jays and rollers, orioles and a host of other birds have likewise been given a lease of life by putting a stop to the lucrative trade in their feathers.

A special feature of the Indian Game Laws is that they largely relate to hunting inside the State forest.. Game outside does not get similar protection due to want of an organization for game preservation.

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\* The mammals mentioned in this edict are : bat, monkey, rhinoceros, porcupine, squirrel, swamp deer, bull and all 4-footed animals not utilized or eaten.

## VII, Public Opinion

While there is little to be desired in the matter of enactment of Game Laws, there is almost an unbridgable gap between legislation and its implementation. Reliance on deterrents, penalties and punishments is of little avail without healthy public opinion against the insensate killing of voiceless denizens of the forest. Public interest must be aroused to the pitch of revolt against the wanton destruction of the valuable asset that India has in her colourful wildlife. The cultural, ethical, aesthetic, recreational and sporting aspects of wildlife deserve a wider recognition than is usually accorded. In order to mould public opinion we must begin at the beginning and catch one young. Animal stories, photographs, pamphlets, posters, films and lantern slides should be utilized in advancing the cause of wildlife in schools and colleges. It is the rising generation that should be enthused with a missionary spirit in the protection of our rich and varied heritage in our wildlife. It is to be noted that it is public opinion in India which protects monkeys, parrots, peafowl, fish, pigeons and nilgai.

Paradoxical as it may appear, the staunchest support for the preservation of wildlife comes from those who indulge in its destruction, viz. the shikaris in India and from the safaris in Africa. Everyone kills the thing he loves: the proud by possession, the poet by faint praise, the biologist by giving it a Latin name, and the sportsman with a gun. There are only two tragedies in the life of a sportsman: one not getting the trophy he is after; and, the other more serious one, getting it. There is nothing so heart-rending as not getting the tiger you want; and yet there is nothing so heart breaking as finding the handsomest of God's creation lying at your feet.

## VIII. The Bombay Natural History Society

For its preservation, the wildlife in India owes a debt of gratitude to the Bombay Natural History Society which through its journal and other publications has sought to stimulate public interest during the best part of 75 years. It was largely through its efforts that game laws were enacted and modified from time to time. The part played by the Zoological Survey of India in advancing the cause of wildlife has by no means been small. Various Game associations (The Nilgiri Game Association founded in 1879, the Bengal Fishing Association, the Madras Game Association, 1933, etc.) have exercised control on shooting and fishing and set up a standard of sporting ethics.

IX. The London Convention, 1900

The genesis of the movement for the preservation of wildlife goes back to the year 1900 when the British Government convened a conference in London for the purpose. This celebrated London Convention for the preservation of wildlife in Africa was signed by France, Belgium, Italy, Spain, Portugal and Great Britain. It has since come to be regarded as the Magna Carta of wildlife in Africa.

X. International Conference for Protection of Nature, 1913

In 1913, an International Conference for the Protection of Nature was held in Berne (Switzerland) at which 17 countries were represented. A central organization to deal with wildlife on an international plane was proposed. The World War I, however, intervened and the recommendations of the Berne Conference were not implemented until 1928 when a Central Wildlife Bureau was established at Brussels. It was called the International Office for the Preservation of Nature : I.O.P.N. (18(2)).

XI. The International Conference. Paris, 1931

It was as a result of the efforts of this organization that an International Conference for the preservation of wildlife was held in Paris in 1931. Mr. Ramsay Macdonald, the then Prime Minister of United Kingdom sent the following inspiring message to this Conference :

"In the territories for which they are responsible His Majesty's Government in the United Kingdom regard themselves as trustees for the Protection of Nature, not only in the interests of their present inhabitants but in those of the world at large and of future generations.

The wonderful fauna and flora with which Nature has endowed the world have already suffered grave losses. Animals and plants of great scientific interest and often of great beauty have been exterminated, objects of great geological interest have been destroyed and the beauties of Nature defaced. Lovers of Nature may do much to stem the process, but if their object is to be secured the active cooperation of Government is essential."  
(12(1)).

XII. The London Conference, 1933

Soon after, another international conference was held in London in November, 1933. At a dinner of the African Society held in London on November 18, Prince Leopold of Belgium observed

"The protection of Nature raises problems of universal importance, the evolution of which cannot be left to the initiative of isolated groups whose action is necessarily limited, and who are unable to enforce in their entirety, the effective measures of preservation which are necessary.

The State alone can and must take responsibility for a protective organization which will command the interest of all mankind in its moral, social, economic and cultural development; and, thus the political aspect of the question becomes apparent."

At this London Conference, India sent an observer. The deliberations of this conference aroused a great deal of interest in the protection of wildlife throughout the British Empire. A Society for the Preservation of the Fauna of the Empire was formed with branches in India, Burma, Ceylon and elsewhere. In the Punjab, new Game Laws were enacted in 1933; in the Uttar Pradesh the National Hailey Park was brought into being by an act of legislature in 1934. About the same time the Journal of the Bombay History Society sponsored a series of contributions on the preservation of wildlife (24.III).

XIII. The Delhi Meeting, 1935

In 1935, wildlife enthusiasts from all over India met at New Delhi to devise ways and means for the preservation of wildlife. Before the recommendations of this august meeting could get under way the second World War broke out.

XIV. The I.U.P.N., 1948

After the cessation of hostilities an International Union for the Preservation of Nature and Natural Resources (IUPN) was set up under the aegis of UNESCO at its meeting held at Fontainebleau in 1948. It aimed at the conservation and wise use of "the entire world biotic community or Man's natural environment which includes the earth's renewable natural resources ...". On September 20, 1951, at the inaugural address of the IUPN at Hague, Mr. Van der Goes Van Naters summed up the situation succinctly in the following words :



"The Protection of Nature has passed from the concept of a simple establishment of reserve areas to that of a rational management of an entire region, in full harmony with natural laws. It is mixed with town planning, with the science of land utilization, even with social sciences to become more and more a chapter of human ecology."

XV. The Indian Board for Wildlife, 1952

Nearer home, Lieut. Col. R.W. Burton entered a plea for the wildlife preservation in the Journal of the Bombay Natural History Society (4). At the instance of the IUPN the Government of India appointed an ad hoc committee with the writer as its Chairman, to consider ways and means for the preservation of wildlife. It was on the recommendation of this Committee that the Indian Board for Wildlife was constituted by the Government of India. The Resolution (No. 7-110/51-R dated April 4, 1952) on the subject stressed the need for such a Board in the following terms:

"India's heritage of wildlife is fast becoming a vanishing asset and some of our notable animals (and birds) such as lion, rhinoceros, cheetah, tragopan are on the verge of extinction. With a view to preserve the fauna of India and to prevent the extinction of any species, and their protection in balance with natural and human environment, Government of India are pleased to constitute and appoint a Central (later, Indian) Board for Wildlife."

The functions of the Board are laid down as under :

- (i) to devise ways and means of conservation and control of wildlife through coordinated legislative and practical measures with particular reference to seasonal and regional closures, and declaration of certain species of animals as protected animals, and prevention of indiscriminate killing;
- (ii) to sponsor the setting up of National Parks, sanctuaries and zoological gardens;
- (iii) to promote public interest in wildlife and the need for its preservation in harmony with natural and human environment;
- (iv) to advise Government on policy in respect of export of living animals, trophies, skins, furs, feathers, and other wildlife products;

- (v) to prevent cruelty to birds and beasts caught alive with or without injury; and,
- (vi) to perform other functions as are germane to the purpose for which the Board has been constituted.

#### XVI. The Indian Board's Achievements

The recommendations made by the Board (including the recommendations of its Standing Committee and the two wings) and the achievements based on those recommendations can be summarised as below :

##### (1) National Parks and Wildlife Sanctuaries

At its first meeting, the Board had formulated a definition of a national park in India. Thereafter a model bill for national parks in India was also prepared and circulated to all State Governments for their guidance. Recently the Board has also prepared and circulated to all State Governments "A statement of National Parks Policy - Standards for National Parks in India".

As a result of the persistent recommendations made by the Board in this regard, there are now over 83 wildlife sanctuaries (including national parks) in India.

##### (2) Protection of Rare Species

Some colourful and interesting species of our wildlife like the hunting leopard (or the cheetah), the pink-headed duck and the Asiatic two-horned rhinoceros had been exterminated before the Indian Board for Wildlife was constituted. After its constitution the Board immediately set itself the task of saving wildlife species which were considered rare and on the verge of extinction. The Board, therefore, drew up the list of the following such species and strongly recommended that the State Governments concerned should give immediate and complete protection to them.

- (i) the Asiatic lion,
- (ii) the Snow leopard,
- (iii) the Clouded leopard,
- (iv) the Cheetah (was considered to be more or less extinct by that time)
- (v) the Great one-horned rhinoceros,
- (vi) the Indian wild ass,
- (vii) the Kashmir stag,
- (viii) the Musk deer,
- (ix) the Brow-antlered deer,
- (x) the Pigmy hog,
- (xi) the Great Indian bustard,
- (xii) the Pink-headed duck (was considered to be more or less extinct by then),
- (xiii) the White-winged wood duck.

Later, certain other animals, birds and reptiles like the wild buffalo, the dugong, the peacock and the leathery turtle, etc. were also added to the above list in the recommendations made by the Board.

(3) Control on the export of wildlife species and their products, etc.

The Board realised that commercial transactions, specially the export trade in wildlife and its products, constitute a major threat to the existence of wildlife. It was recognised that export of diminishing species or their products could easily nullify all the protective measures, which the State Governments may take for the preservation of such species. The Board, therefore, recommended a complete ban on the export of certain rare species (including their products) in order to guard against their extermination due to over-exploitation. At present the export of wildlife and its products, etc. is being regulated under the Imports and Exports (Control) Act, 1947 based on the Board's recommendations. The Board lays down lists (i) of animals and their products the export of which is to be completely banned and (ii) of those the export of which is to be restricted. These lists are reviewed frequently. A Study Group has been formed recently, in the Ministry of Food and Agriculture to go into this question of exports of wildlife and its products and to review the export policy.

(4) Legislation and wildlife preservation laws

Under this category the Board has made a number of recommendations aimed at achieving the revision of wildlife preservation laws on sound modern lines. The recommendations made in this regard are roughly on the following lines :

- (i) The laying down of closed seasons for shooting of animals and birds, etc.
- (ii) Banning sale of game meat, etc.
- (iii) Prohibition of use of fast moving vehicles and artificial lights for shooting.
- (iv) Prohibition of shooting at salt licks and water holes.
- (v) Prohibition of indiscriminate shooting and prescribing limits to the number of each species that be shot.
- (vi) Prohibition of snaring and poisoning of wildlife.

At the instance of the Indian Board for Wildlife, a draft model wildlife Bill was prepared for the guidance of the States wishing to revise their wildlife laws. It is due to the persistent interest taken by the Board that eleven States and union territories in the country have either already revised or are in the process of revising their wildlife laws on modern and uniform lines. The remaining few States are also being requested to fall in line with the others in this regard.

(5) Wildlife education and publicity

The Board recognised that penal measures by themselves are not adequate and that the willing cooperation of the people is a sine qua non for effective preservation of wildlife. The Board has, therefore, been stressing the need for wildlife publicity and education. To this end, the observance of an annual wildlife week was initiated first in 1956. The first week of October every year is being observed as wildlife week. During this week the Central and State Governments distribute publicity material like charts, posters, pamphlets, etc. bearing on wildlife preservation, in different languages all over the country. Cinema slides and documentaries on wildlife are also exhibited both in rural and urban areas. Public meetings are held and processions, in which the necessity of preserving wildlife is brought home to the people, take place throughout the country. People participating in such meetings take the following wildlife pledge :

"I give my solemn pledge to protect our country's wildlife and its forests from unnecessary destruction."

Publicity through radio and press is also taken up during this week. This week is also celebrated in the schools, colleges and universities all over the country where lectures on wildlife are given, suitable films shown and visits to wildlife sanctuaries and national parks are arranged in order to impress upon students the necessity of wildlife preservation. The celebration of this week over the past 10 years has gone a long way in creating an awareness among the public about the necessity of preserving wildlife.

(6) Census and study of wildlife ecology

Recently, the Board has laid stress on the necessity of conducting census and undertaking ecological studies on wildlife so that wildlife management in the country could be placed on a sound footing. This programme has not, however, made much head-way mainly for want of trained personnel, in the country. It is hoped that with the starting of the proposed wildlife management courses at the Forest Research Institute and Colleges, Dehra Dun, trained staff for this work will be available.

(7) Zoo management

In the field of zoo management the Board is guided by its Zoo Wing. The Board aims at setting up more zoos and placing them on a sound footing. There are at present 22 zoos in the country.

(8) New homes for rare species

There are some rare animals and birds like the Asiatic lion, the Great one-horned rhinoceros and the Great Indian bustard which are localised in certain areas forming single units. It was recognised that in the event of the occurrence of a natural calamity or spread of epidemic, there is a possibility of the entire population of these rare species being wiped out. The Board has been making recommendations to the State Governments concerned for finding new homes for such species so that in the event of their being wiped out at one place they could survive in their adopted homes. At the instance of the Indian Board for Wildlife a new home for the Asiatic lion (which was till recently localised in Gir Forests in Gujarat State) has been found in the Chanderprabha wildlife sanctuary near Varnasi in Uttar Pradesh. The number of lions in that sanctuary has now risen to eleven from one lion and two lionesses originally introduced there in 1957. Similarly attempts are also being made to find new homes for other rare species like the rhino and the Great Indian bustard.

(9) Setting up of breeding farms for animals, birds and reptiles of commercial value.

The ban on the killing and export of certain rare mammals, birds and reptiles of commercial value was strongly resented by the trade. The Board considered this matter in detail and felt that while it could not agree to the exploitation of the natural sources of these species for commercial purposes, it would have no objection to the setting-up of breeding farms for such species, the products of which could be freely farmed for export by the trade or used for other commercial purposes. On the basis of this recommendation, the possibility of starting breeding farms for crocodiles, pythons and peacocks is under consideration, but the difficulty has been lack of expert knowledge in this field.

(10) Control on licences and use of certain categories of ammunition

Arms for protection of crops constitute one of the major factors threatening the existence of wildlife in the country. Due to the efforts of the Board, a number of restrictions have now been placed on arms licences in relation to the area of use of the arms, type of ammunition permitted to be used and to make the arms ineffective during off-crop season. These efforts continue.

(11) Special meeting held on 23 April, 1965 to consider wildlife preservation measures in India

A special meeting of the official and non-official organizations in India was held on 23 April, 1965 in the Planning Commission. This meeting reviewed the wildlife situation in the country and made certain recommendations aimed at ensuring better preservation of wildlife in India. These recommendations were further considered by the Indian Board for Wildlife at its last session held at Dhikala (Corbett National Park), Uttar Pradesh, from 3rd to 5th June, 1965. After carefully considering the matter the Board made the following recommendations in this regard :

The Board took note of the recommendations of the Committee of the Planning Commission regarding wildlife conservation and recommend that :

- (a) for the effective conservation of wildlife, the schemes in the IV Plan should be centrally sponsored;
- (b) a separate division should be established in the Ministry of Food and Agriculture with a whole time officer-in-charge to deal with matters relating to wildlife;
- (c) the question of setting up a technical advisory committee to the proposed wildlife division should be left to the decision of the Ministry of Food and Agriculture.

(12) Five Year Plans and Nature Conservancy Schemes

Nature conservation has also received its due share of attention at the hands of our planners in the Five Year Plans. The provision for nature conservation schemes during the 2nd Five Year Plan (1951-1956) stood at Rs. 13.5 million. This was raised to Rs. 20.9 million during the Third Five Year Plan. The proposed provision for this purpose in the Fourth Five Year Plan will be of the order of Rs. 42.5 million.\*

XVII. Finance

Organizations set up for the wildlife preservation throughout the country have one thing in common viz. they all suffer from the paucity of funds. No organization can subsist only on the enthusiasm of its supporters. Of late, both the Centre and the States have shown increasing awareness of the wildlife problems and have allotted funds for the purpose which could at best be described as meagre. A Game Fund should be created both at the Centre and in the States to which should be credited income from the following sources :

\* Section XVI was contributed by the Government of India, Ministry of Food and Agriculture (Department of Agriculture).

- (i) Sporting arras. Licences. Import duty on arms and cartridges.
- (ii) Game licences. Fishing permits.
- (iii) Entrance fees to National Parks, Sanctuaries, Zoos.
- (iv) Fines, forfeitures and sale of confiscated animal products.
- (v) Collections during the Wildlife Week.
- (vi) Contribution from the Government.
- (vii) Sale of animals and birds.
- (viii) Export duty on animals and animal products.
- (ix) Royalties on sale of elephants caught.

In the U.S.A., the Game Fund was an integral part of the game and fishing laws. The rehabilitation of wildlife in Pennsylvania, which was on the way out in 1890, was largely financed by this fund. The Wildlife Restoration Act of 1937 allotted to the States Funds, sums out of 11% excise tax levied on arms and ammunition. The Wildlife Commission in Malaya recommended likewise the creation of a Game Fund (24 v) .

#### XVIII. Fundamentals of Wildlife Preservation

For wildlife protection we must have :

- (1) Enlightened public opinion.
- (2) Adequate funds.
- (3) Game Laws. Deterrent penalties.
- (4) Adequate staff.
- (5) National Parks. Sanctuaries, reserves, etc.

#### XIX. Cultural Aspect of Wildlife

The cultural development of a country is not only judged by its arts and architecture, philosophy and literature, but also by how it preserves its historic heritage in its natural resources. Forests and wildlife should be raised to the national status of museums, operas, theatres, and architectural monuments which provide inspiration to the public, in addition to the revenue for the exchequer.

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WILDLIFE AND TOURIST REVENUES

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by S.K. KOOKA

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India has a population of 450 million. Every Indian, without too much assistance from the Almighty, can aspire to reach the age of 44 before the undertakers reach him : I am not letting you in on a secret if I tell you that as a country we are short of food, short of clothing, short of a roof, terribly short of that vexatious commodity, foreign exchange.

And the patriot could say - when we have 450 million, a large number of whom can't get one square meal a day - how important is the survival of our cheetah, our sambhar, our kakar, our bhekar, our nilgai, our wild boar, our partridge, our quail ? And if all of these are slaughtered by our meat-hungry, is it such a crime ? The same patriot will ask - when a nation - ours - is a teenager, just 18 years old, with problems a nation centuries old would run a mile from, when millions of our countrymen have blooded our cities and plains in the orgasm of freedom, their graves still warm - how important are the four-footed of our jungles - the very word is fearsome, as though it were evil- What is all the fuss about ?

In E.P. Gee's fine book "The Wild Life of India" the dust jacket in bold type states : Foreword by Jawaharlal Nehru - as though the publishers hoped that his great name might persuade Indians to look at a book on animals, that did not involve shooting them! And Jawaharlal wrote "In no country is life valued in theory so much as in India, and many people would even hesitate to destroy the meanest or the most harmful of animals. But in practice we ignore the animal world." Panditji talked about "the meanest of animals". I'd like to think he had in mind the scorpion, the centipede, the viper and not the four-footed who can only be as mean as man makes them.

If the animals of India were ignored as Mr. Nehru said, there would be no need for special societies for preservation of wild life. They are being obliterated at a speed that is appalling.

The animals are just not there, because muzzle-loaders exist in vast quantity, licensed, unlicensed, four and five in each village, the owners familiar with each yard of their forest, as one is with the main street of one's town.

And, in summer, when water is scarce, the poacher and his muzzle-loader will hide by the water-hole and murder every living creature within range, which he can eat and then sell the skin and sell the horns. And to keep out of trouble, he will donate one rear leg to his village forest guard.

Then there is the sham of crop protection, to justify muzzle-loader licences, with possession of the weapons for 12 months of the year, over long periods when there are no crops to protect. And no action is taken against the ownership of unlicensed muzzle-loaders!

I would like to quote what Dunbar Brander of the Indian Forest Service said in 1928 : "I left India in 1922 but revisited it in 1928, and was appalled to find such a change in so short a period, quite common species being found only with difficulty. Game has almost disappeared and there is nothing to be seen along 200 miles of antelope country between Bombay and Ahmedabad. Forest Act and Rules are in my opinion excellent. It is in application that they fail. They fail in prevention of poaching. There is lucrative trade in game. The Forest Guard finds that the easiest plan is to take a percentage of profits. Rewards sanctioned by rules against poaching are too sparingly given and the Magistrates' sentences are quite often inadequate. I consider that some action in India is urgently required, perhaps more so than in Africa."

God has been kind to Brander for making it impossible for him to visit this country in 1965. He's dead. And even if he wasn't, one brief visit today to his beloved Central Provinces, (now known as Madhya Pradesh) would result in what anno domini has gracefully done to him,

It has been denied by the authorities and will be denied again. But perhaps there is more than truth in the report that when the leaders of a village receive their licences for muzzle-loaders, that village shows remarkable political sagacity at election time. If I may say so, Mr. Government, there is no party in this land which can oust you at the hustings. Your seat is a safe one, please be ruthless on new licences for muzzle-loaders, please collect all weapons when the crops have been collected and confiscate unlicensed muzzle-loaders. Your political image will not be impaired, but your wildlife will have a longer lease of life.

The truck driver hauling timber and a shotgun, with his headlamps ablaze and a taste for game, lends his hand to the extermination of game. Why should forest roads be open to and from the highway from dusk to dawn ?

In the older part of Delhi; there is a famous restaurant where partridge and quail are eaten each day of the year, They are netted in vast quantities. Why should their sale not be banned and made illegal, with punitive sentences for the guilty ? Eight years ago, 40 miles from Delhi, the black buck roamed the plains in beautiful abundance. Today this lovely creature is sought after by the American tourist hunter as a rare species of Indian antelope.

Mr. Vidhya Charan Shukla, Member of Parliament, who is the owner of India's leading shikar company, tells me that in the sanctuary of Kana Kesli in Madhya Pradesh, there is a systematic slaughter of horned game, the carcasses being carried in trucks to nearby towns for sale. Reports are received that regular bands of poachers are active in the Periyar Game Sanctuary.

Do you know where the game still abounds, free and happy as God meant them to be ? In the dacoit-infested areas. The shikari dare not go there, and the muzzle-loading poacher appears to be inhibited. Special bouquets are due to the bandits of the Chamb Valley, of Bhind and Horena, for the fine job they are doing in the cause of wildlife preservation!

There are villages in Madhya Pradesh whose inhabitants eat both tiger and panther flesh. I say this from first hand knowledge. There are tribes who live by the snaring and netting of small animals and birds. For additional equipment, they use a pack of hunting mongrels who seldom lose their prey. And being nomads, they cover a great deal of mileage and carry out a great deal of destruction. I am not so sure that the palates of these off-beat gourmets couldn't be persuaded to switch to mutton and lamb, given the opportunity. If every village had an animal-husbandry cell, where the breeding of sheep and goat was encouraged by Government, there would be more meat for all, less craving and hunger for something other than green vegetables, less destruction of wild game and healthier generations to come. But there is no movement in this direction.

Take our magnificent tiger, who has no equal in the world. Before independence, they used to say of the Nawab of Bhopal, that in his State, one could not kill two things - a man and a tiger. For they were his preserve. And the rulers of our native states preserved their forests with great care, for to them wildlife was a very precious commodity. Today, those very same jungles are bereft of game. They have been poached dry by the muzzle-loader, who might have paid with his life for his loot, when the Maharajas ruled, and they are poached by the hunter in his floodlit jeep, who can enter any forest road at night because forest roads are a free for all with no gates and no padlocked barriers at strategic spots.

God meant the tiger to live on venison and pork and not on the meat of cattle. Game is fair game for the tiger, and this was written the day the first tiger was conceived. And in the old days, a tiger who was declared a cattle-lifter, was badmash, a menace to property, and he was a free for all to destroy. But he was not one of the mill. He was an exception, because beef was not his staple diet. The tiger was not permitted to choose from the "a la carte" menu, for nature specified that he should eat lovely, juicy game, and work for his supper. But now the poor tiger, desperate for food, is more often than not, a cattle-lifter. Because his true food has been taken away from him by man and he is left with no alternative but to steal cattle and pay with his life for it.

Herdsman from the same village where the muzzle-loaders are, poison their tigers and take revenge in one form or another, and so this magnificent beast is diminishing in very fast numbers. What is more, a tiger declared a cattle-lifter - what else can he lift - is permitted to be destroyed without block or licence fees.

When we are dependent on America for our wheat and on Russia for strategic aid, when we have a banjo-eyed neighbour who covets our territory, and another whose hate for us is an obsession, who, in Government, will wear black, at the thought of our magnificent fauna slowly breathing its last ?

The great sadness lies in the fact that the thousand problems that beset our country today cannot be more than transient. A day must dawn when our food, our clothing, our population, our housing, our steel, cement and foreign exchange will cease to suffer from growing pains. For we are a big nation, destined to play our written part in the history of tomorrow and the day after.

The great immeasurable sorrow is that when we have achieved our material goal, raised our standard of living, our land a-bulging with automobiles, blast furnaces, readymade trousers, with plenty of jingle in the pockets, and liquor galore - for reason must surely prevail - it will then be too late for the gnashing of teeth. Our heritage, we shall have buried by then, with a miserable attendance at the funeral.

If Ford Foundation could allocate a grant in 1963 of 73/4 million dollars to George Balanchine, to "Expand ballet in the U.S.A. over the next ten years", can't Peter Scott and Salim Ali persuade the purse strings to salvage our heritage ? Because, I am convinced that left to ourselves, our battle is lost. It's the old story of the prophet in his own country. The outsider will have to show our Government the way, they will be listened to.

If our jungles are silenced for ever, and the sambhar tonks no more, no minister will dance a saraband for a dead animal. There are more important items on the agenda of building a nation. If the pintail, the mallard, the teal, the shoveller and the goose were not winter visitors to our land, we'd soon be a vast burial ground for the birds of the air, Nature in her great wisdom made them allergic to the heat. And so they come and visit us and leave again. Nevertheless, in Uttar Pradesh, the netting of geese on a large scale takes place each winter, with the birds railed to Calcutta for sale. These birds go back to Siberia, before it gets too hot for them, in more senses than one.

But where is the tiger to go ? He left Manchuria quite a while ago and is now a native of our land, holding an Indian passport. As a citizen of this country, he has the right to be protected. And this goes for the panther, the sambhar, the cheetah, the little four-horned deer and all their friends of the forest.

The trigger-happy have to be taught, educated, brain-washed. Throwing the book at them is not enough. Drama, spectacle, visual aid, movie and projector must all be harnessed to spread the gospel of the preservation of wildlife. We need a Peter Scott to rouse the conscience of our nation, of our Government,. The teaching must be to the heart as well as to the intellect. I dislike the line that says - don't shoot your fauna - it can earn foreign gold for you. We don't have to justify the preservation of wildlife, with the argument that it can bring in the shekels. But if Government is impressed by the financial benefits, let them send representatives to East Africa to realize how much tourist revenue, the Government of East Africa earns from tourism, and the major portion of this revenue is due to the wildlife of Kenya. Representatives from the Department of Tourism and the Department of Food and Agriculture should be sent to Nairobi, to spend a day at Tree Tops, Nyeri, 120 miles from Nairobi. There is an excellent road to Tree Tops. A small hotel with excellent facilities is built on stilts, nestling against the trunk of a magnificent tree.

Can we not display similar imagination, ingenuity, in view of what nature has bestowed on us ?

There is no point in our government opening a series of sanctuaries if no action is taken to prevent murder within them. How can a sanctuary become a tourist attraction if it resembles a botanical garden - an abundance of trees, but no animals.

India sees 179,000 tourists each year. If some of them could be persuaded to spend just one day in the jungles, seeing our game in de-luxe and more modest accommodation, with sightseeing trips in the forests, I don't have to enlarge on what the benefits will be. And, if all the world loves a zoo, what an attraction a night in the jungle would be. Hong Kong, Tokyo, Honolulu, Rome, Paris, London and New York can't produce a night in a jungle. We can - but what are we doing about it ? Precious little!

If our beloved wild game must have a financial reason for survival, surely this is one. Excellent accommodation, suitable vehicles, good food, wine and moon, as successive groups spend just one day in exotic surroundings. Few nations on earth can offer a dusk or midnight drive through the forests of the night. Your headlamp and your eyes reveal a giant stage, displaying what Nature never meant you to see.

What a tremendous brochure it would make - a night in a real jungle - not a Tarzan movie. But when will it ever be!

The substandard, amateurish, boarding house arrangements for visitors at Kana Kosli are no substitute for showmanship. But we will talk and talk - till the cows come home - that is, if Panthera tigris does not grab them . . . . . and lo - another cattle-lifter will be born. God keep him!

SANCTUARIES AND NATIONAL PARKS IN EASTERN INDIA

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WEST BENGAL

Has eight sanctuaries covering an area of approximately 675 sq. kms. Of these, three are in the Sunderbans within easy reach of Calcutta, and the remainder are in North Bengal. The best way to visit the latter is to take a plane from Calcutta to the airfield situated closest to the sanctuary, and thence by road. Train journeys to all of them are tedious. Except for the Tourist Bungalow in the Jaldapara Sanctuary, the other North Bengal sanctuaries have ordinary Forest Rest Houses, which provide furniture and crockery, but one has to carry his own bedding and arrange for his food. So far, West Bengal has not constituted any National Park. The best time to visit the sanctuaries is from November to April, except for the Senchal Sanctuary. No special staff is sanctioned for any of the sanctuaries. Details in respect of each are given below :

I. Jaldapara Sanctuary

Constituted in 1941 for the protection of the Indian one-horned Rhinoceros. It covers an area of 93 sq. kms, in a linear strip 16-19 kms wide along the Torsa River in North Bengal. The nearest railway station is Hashimara on the North-East Frontier Railway, from where the Barodabari Bungalow is only 2 kms away. The nearest airfield is Hashimara, connected by non-scheduled flights with Calcutta. Jeeps and trained elephants are available on hire.

The Tourist Bungalow at Barodabari has three bedroom suites with a lounge and a dining room. Catering arrangements are provided. The charges for accommodation only are Rs. 8/- per day for a double room and Rs. 5/- for a single.

Today there are about 80 one-horned Rhinos in the sanctuary and, in addition, tigers, elephants, bears, samghar, swamp deer, hog deer, goyal and bison have also benefitted.

Reservation of accommodation and transport is done by the Divisional Forest Officer, Cooch Behar Division, P.O. COOCH BEHAR.

II. Mahanadi Sanctuary

Constituted in 1955 with an area of 128 sq. kms, in the Darjeeling district, near Sukna railway station on the N.F. Railway, 9 kms from Siliguri Junction. Nearest airfield is Bagdogra, 24 kms away, and connected by a regular IAC service with Calcutta. The best rest house is at Sukna. The animals that have benefitted are the tiger, elephant, bison, sambhar, cheetal, barking deer, and pigs. Reservations are made by the Divisional Forest Officer, Kurseong Division, P.O. DOW HILL, Dist. Darjeeling.



### III. Senchal Sanctuary

Is the oldest sanctuary in West Bengal, created in 1940, over an area of 39 sq. kms, embracing the hills around Darjeeling. Though Ghoom railway station on the N.F. Railway adjoins the sanctuary, it is more convenient to stay at Darjeeling which has first class hotels, and is only 8 kms away. Cars can be hired at Darjeeling. The sanctuary has motorable roads on three sides, and another passes through it at certain points. The view of the snows from Darjeeling and the sunrise from Tiger Hill are world famous. The animals in it are the serow, Himalayan bear, barking deer and goral. The best time for a visit are April-May and October-November. Further information can be obtained from the Divisional Forest Officer, Kurseong Division, P.O. DOW HILL.

### IV. Gorumara Sanctuary

Is a small one with an area of only 8.5 sq. kms, and was constituted in 1949 for protecting the rhinoceros. The animals found today are the rhinoceros, elephant, tiger, bison, sambhar, barking and hog deer, buffalo and pig. The most convenient railhead is Mal Junction on the N.F. Railway, and the airfield is again Bagdogra. Taxis are available at Mal Junction, which is 25 kms away from the Sanctuary. There are two rest houses at Gorumara and Chalsa. Reservations are done by the Divisional Forest Officer, JALPAIGURI.

### V. Chapramari Sanctuary

Has the same area as the Gorumara sanctuary, with the same railhead, airfield and animal population. The most convenient rest house is Chapramari. Reservations are done by the Divisional Forest Officer, JALPAIGURI.

### VI. Sajnakhali Island Sanctuary

Is the biggest sanctuary in West Bengal with an area of 360 sq. kms, was constituted in 1960 and is located in the Sunderbans. The most convenient route is to take the train from the Sealdah station of Calcutta for Canning, and from there proceed by country boat or steam launch. The primary attraction here is birds, and the important ones are : cattle egret, paddy bird, little cormorant, black-necked stork, snake bird, white ibis, green bittern, pelican, etc.

## VII. Lothian Island and Halliday Island Sanctuaries

Both are in the Sundarbans, approachable from Calcutta by train up to Diamond Harbour, then by bus to Namkhana, and finally by country boat or steam launch. The important animals in these sanctuaries are tigers, spotted deer, and aquatic birds. For all Sunderban sanctuaries, further information can be obtained from the Divisional Forest Officer. 24 Parganas, 35, Gopalnagore Road, CALCUTTA-27.

## ORISSA

Has four sanctuaries with an aggregate area of only some 102 sq. kms, two of them being only 13 sq. kms apiece. All of them are situated close to the urban centres of Puri, Angul and Bhubaneswar. A National Park has been established in the Similipal Hills of Mayurbhanj district, with an initial area of 1,000 sq. kms, and will be eventually extended to cover 2,500 sq. kms. A Biological Park has been located between Cuttack and Bhubaneswar since 1960. It is a combination of a Zoo and a Botanical Garden. Except for the Mayurbhanj National Park, no special staff is sanctioned for any of the sanctuaries, For further information in respect of any of them, application can be made to the Chief Conservator of Forests, CUTTACK. Individual details are given below :

### I. Mayurbhanj National Park

Is located in an area with probably the best wildlife in the whole State. It is claimed that except for wild buffalos and black buck, all the other animals found anywhere else in the State (elephant, bison, sambhar, spotted deer, nilgai, barking deer, mouse deer, pigs, tiger, panther, bear, etc.) are represented in the National Park. The scenery too is gorgeous, and one waterfall, the Barheipani Falls, is claimed to be 1308 feet high, i.e. higher than the Jog Falls in Mysore.

The best way to reach the Park is to take National Highway No. 6 from Calcutta, which skirts the National Park for a distance of nearly 65 kms. Several roads lead off from this into the Park itself. The Hotel - cum - Rest House at Nawana, if completed, will be about 240 kms from Calcutta by the National Highway, via Bangriposi. The rail approach is indifferent. Trains have to be changed at Rupsa for Baripada, but Rupsa is a small station where none of the Mail or Express trains stop. There is no airfield or air connection.

This National Park is well served with rest houses, there being 7 of them, but none provide bedding or catering arrangements. One of them is located at the head of the Barheipani Falls.

Special staff sanctioned for the Park comprises one Assistant Conservator, one Deputy Ranger, three Foresters, eight Forest Guards and one Guide for conducting tourists. A jeep is also available for hire by tourists. Reservations are done by the Divisional Forest Officer, National Park Division, P.O. JOSHIPUR, Dist. Mayurbhanj.

## II. Debigarh Sanctuary

Is the oldest sanctuary in Orissa, created in 1931, but has an area of only 13 sq, kms. Is located in the Barapahar Division, but has no convenient railhead and has been sadly depleted through illicit shooting.

## III. Raigoda Sanctuary

Created in 1938 with an area of 40 sq. kms. Can be most conveniently visited from Angul, which is 37 kms to the North. Angul itself is a small town, and first class hotels are not available. Catering arrangements exist at the Circuit House and bedding is also available. The commonest animals are elephants, spotted deer, sambhar and bison.

## IV. Chandka Sanctuary

Created in 1935 with an area of 30 sq. kms, and lies 20 kms West of Bhubaneshwar. There is a P.W.D. Rest House at Chandka itself. The animals are elephant, sambhar, spotted deer, barking deer, tiger and panther. Is subject to poaching particularly at night.

## V. Balukhund Sanctuary

Created in 1935 with an area of 13 sq, kms. along the Casuarina plantations on the sea coast near Puri, with the sole object of providing protection to the black buck which was very common in this area. There is a two-roomed rest house at Balukhund, but is more conveniently visited from Puri itself, which has first class hotels.

## BIHAR

Has five sanctuaries totalling about 700 sq. kms, and two National Parks, one each in the Hazaribagh and Palamau districts, having areas of 182 and 166 sq. kms respectively. The Hazaribagh National Park has a Rest House and Tourist Lodge, at both of which bedding is provided and catering arrangements exist in the nearby Island Canteen. In the others, only ordinary Forest Rest Houses are available. Except for the Hazaribagh National Park, no special staff is sanctioned for any of the others., All the sanctuaries and National Parks are in the Chotanagpur Division of the State, and the most convenient centre for visiting them is Ranchi, which has first class hotels, and where taxis can be hired for all journeys. The best time for visiting is March-April and November-December.

### I. Hazaribagh National Park

Created in 1954 by an executive order of Government, and strictly speaking, is only a sanctuary. It lies astride National Highway 33 which splits the Park into two halves, and itself takes off from National Highway 2 (Grand Trunk Road) at Burhi, 400 kms West of Calcutta. The Rest House and Tourist Lodge is located in the Western half of the Park, at a distance of 32 kms from Burhi, and about 10 kms to the West of the National Highway. There is no convenient rail-head or station wagon at Hazaribagh for hiring by tourists. The distance to the Tourist Lodge is 24 kms from Hazaribagh and 120 kms from Ranchi. Special staff sanctioned comprise one Ranger, one Deputy Ranger and twenty Game Guards.

Animals in this National Park are still very shy, though the chances of seeing them are better in the Eastern half than in the Western. The Western half is more developed with the Tourist Lodge and Canteen, consequently draws more visitors with an attendant increase in motor traffic and noise. This has made the animals in this half more shy and confined to the deeper recesses of the forests. Sambhar and spotted deer are plentiful, the other ungulates rare. Bison are very rare. Tigers and leopards are also to be found. For reservation, the authority is the Divisional Forest Officer, Hazaribagh West Division, P.O. HAZARIBAGH.

### II. Palamau National Park

This National Park embraces the Reserved Forests around Betla in the Palamau district, and was created in 1959 by an executive order of Government, It lies off the main Ranchi-Daltonganj road at a distance of 170 kms from Ranchi and 26 kms from Daltonganj, but road transport is not easily available at Daltonganj and accommodation is not very good. There are three Forest Rest Houses within the Park, at Betla, Kerh and Kechki. The last named is very picturesque, situated on the confluence of the North Koel and Auranga Rivers.

Bisons abound in this National Park, and during the summer months it is quite easy to come across a herd. In addition, sambhar, spotted deer, mouse deer, four-horned antelope, Indian gazelle, nilgai, hog deer, barking deer, all are found here. Among the carnivores, the important species are tiger, leopard, hyena, jackal and mongoose. Bird life also is quite rich. The greatest abundance of animals is during April and May, when due to the presence of water, animals from other parts of the forest gather in it. All in all, the animals here are more plentiful and less shy than in the Hazaribagh National Park. For reservations, contact Divisional Forest Officer, Daltonganj Division, P.O. DALTONGANJ.

### III. Sasangdaburu Sanctuary

Covers an area of 92 sq. kms in the Saranda Forest Division of the Singhbhum district, embracing some of the finest Sal forests in the whole country. It was created in 1936, and has an average elevation of around 650 metres above sea-level. The area is rather inaccessible, being 32 kms away from the nearest railheads, which are all small wayside stations. A convenient point is Chaibassa, which is 140 kms from Ranchi and about 320 kms from Calcutta.

Elephants have benefitted most by this sanctuary, but wildlife of all kinds, both herbivorous and carnivorous, was plentiful. It was very rich in bird life as well. Rare species like black panthers have been seen in the past. With proper management, it could become one of the best sanctuaries in India. But the whole area has been leased out to the National Minerals Development Corporation for the extraction and export of iron ore. This has played havoc with the sanctuary, and for all practical purposes it can be written off.

### IV. Bamiaburu Sanctuary

Is the oldest sanctuary in Bihar, created in 1932 with an area of 128 sq, kms. It is in the Kolhan Forest Division of the Singhbhum district. The best route is from Ranchi via Chaibassa, the distance being about 190 kms. The rest house at Bamiaburu is in the heart of the sanctuary, and is set amidst sylvan surroundings. Deer are most plentiful in this sanctuary and can be seen any night. Elephants too have benefitted , as well as tigers. It is quite rich in bird life. Sambhar are the most plentiful, but the spotted deer is conspicuous by its absence.

### V. Songra Sanctuary

The other sanctuary in the Singhbhum district is Songra, adjoining National Highway 35 from Ranchi to Jamshedpur. It was created in 1935 with an area of about 145 sq. kms. There are three rest houses within the sanctuary itself; at Rogod, Jate and Tebo, the last one being maintained by the PWD. Tebo lies on the National Highway and is 90 kms from Ranchi.

It is one of the worst situated sanctuaries in the State, and is very prone to poaching. Its value is doubtful, and wildlife is neither plentiful nor easily to be seen.

For the Singhbhum Sanctuaries, applications for reservation should be made to the Divisional Forest Officer, Saranda Division, for Sasangdaburu; Kolhan Division for Bamiaburu, and Porahat Division for Songra. All are at P.O. CHAIBASSA.

#### VI. Baresand Sanctuary

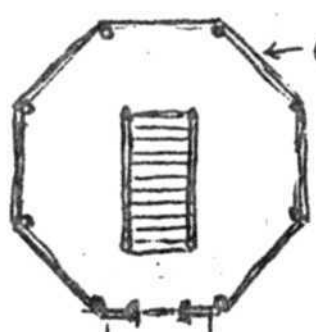
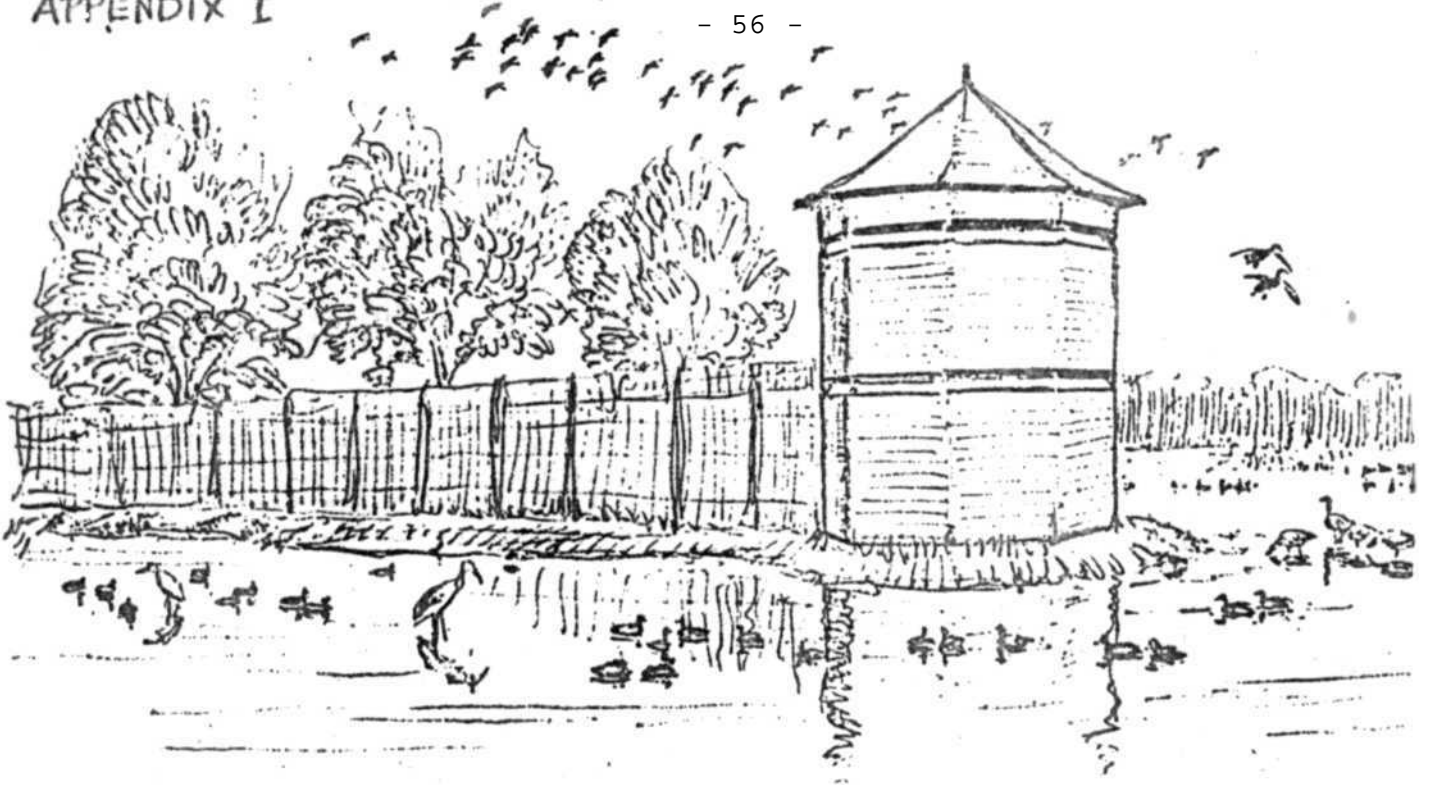
In addition to the National Park, the Palamau district has a sanctuary too, comprising the Baresand Block, created in 1946 over an area of 128 sq. kms. The most convenient rest house is at Maromar, beautifully situated on a knoll, 64 kms from Daltonganj, and 218 kms from Ranchi. As you enter this rest house, monkeys will greet you by making faces.

Bison have benefitted the most by this sanctuary, but other forms, both herbivorous and carnivorous, including tigers are quite common. Reservations are done by the Divisional Forest Officer, Daltonganj South Division, P.O. DALTONGANJ.

#### VII. Kodarma Sanctuary

Is the biggest sanctuary in the State with an area of over 200 sq, kms and was constituted in 1947. There are two rest houses within the sanctuary, at Kodarma and Meghatary. The railhead is Kodarma, 382 kms from Calcutta, where several Express trains stop. Taxis can be hired at Kodarma. There is no airfield or air service.

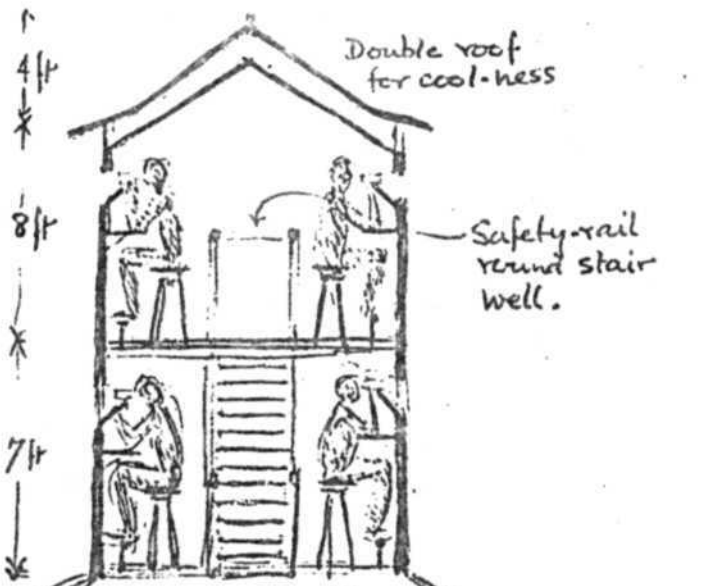
This sanctuary is honeycombed with mica mines, and poaching is rife. Though deer and tigers are found within is, seeing them is very difficult. But it is quite rich in bird life, and interesting bird watching can be had from the compounds of the two rest houses. Reservations are done by the Divisional Forest Officer Kodarma Division, Kodarma Division, P.O. KODARMA.



← 6 foot sides

Total height 19 ft.

Note. In certain places one or more storeys could be added for viewing and photography of tree-nesting birds.



Double roof for coolness

Safety-rail round stair well.

4 ft

8 ft

7 ft

Hidden-Approach Path — at least 150 yards long



A P P E N D I X

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Visit by IUCN Delegation to the  
Keoladeo Ghana Sanctuary,  
Bharatpur, Rajasthan, India

Report by Peter Scott

A party of some twenty people visited the Ghana, arriving by bus at 2.30 p.m. on Thursday 25 November and leaving again at 10.15 a.m. on the following morning. Conditions at the Sanctuary were said to be unusually good, in that migrant birds from the north were already present in some strength, while due to a late monsoon the breeding colonies of storks, herons, ibises and cormorants were still occupied, many of the nests containing quite small young. During the very short period spent at the Sanctuary, (and including the journeys to and from Delhi) some 130 species of birds were identified. Also seen in the Sanctuary were Blackbuck (c.40), Nilgai (c.10), Chital (c.50), Sambur (3) and Wild Boar (2). A panther was seen as, it crossed the road.

H.H. the Maharaja of Bharatpur was kind enough to take my wife and me round the Sanctuary on the afternoon of the 25th when we saw most of the waterfowl species recorded from the area, and a splendid concentration of from 3 - 4000 Greylag Geese, as well as 150 Barheaded Geese and large flocks of ducks of 15 species, including Cotton Teal.

During the afternoon other members of the party had no difficulty in finding and photographing blackbuck and other antelope, or went by boat to see the colonies of breeding birds in small trees standing in shallow water. These included Painted and Open-billed Storks, Spoonbill, White Ibis, Grey Heron, 3 species of White Egrets, Darters and two species of Cormorants.

In the evening His Highness entertained the whole party at dinner at the Palace. Accommodation was provided most generously by the Government of Rajasthan at the Rest House in the Sanctuary and at the Hotel near the entrance.

Unfortunately on the morning of Friday 26th, the wildfowl near the Rest House and in the area where the geese had been concentrated the night before, were considerably disturbed by a shooting party. It is a matter of regret that those IUCN representatives who had been out in the boats on the previous evening thus missed the magnificent spectacle provided by the wildfowl concentration.



The Ghana Sanctuary consists of some 7,000 acres ( c. 11 sq. miles) of which about one third is artificially flooded plain. Banks or bunds provide a number of shallow pans, some of them a sq. mile or so in extent, which fill at the time of the monsoon in late summer and gradually dry up during the rest of the year. These man-made lakes are surrounded by a forest of low trees and shrubs - mostly Acacia, Ziziphus, etc. The pans are grown up with many species of water plants so that, at the time we were there, little clear open water was to be seen, though over large areas the vegetation did not rise above the surface. Some trees grew along the bunds, on small islands, and in standing water.

After so short a visit it is difficult to draw valid conclusions or make positive recommendations, but certain impressions seem worth recording.

First the Keoladeo Ghana Sanctuary can provide as fine a spectacle of large water birds as is to be seen anywhere in the world, enhanced by the presence in the vicinity of some of India's most beautiful mammals', of which three at least can be seen without difficulty by any visitor. Secondly the Sanctuary is not yet a true sanctuary among other reasons because of the considerable amount of shooting which takes place and because of serious over-grazing by domestic animals. Thirdly the potential use of the wildlife in this area as a tourist attraction, for the purposes of education and as a basis for scientific research, is capable of very substantial development at no very great capital cost. It is assumed that such development would have the approval of both the Indian Government and the Government of Rajasthan.

The following suggestions are therefore put forward :

(1) That the sanctuary should be zoned to provide a demarcated area of not less than 3 sq. miles as a strict reserve or true sanctuary, in which no shooting or other disturbance should ever take place, and into which no domestic livestock may enter. It is particularly important that this area should not be disturbed by beaters (with or without fire-crackers) on shooting days.

(2) That in the zone or zones set aside for wildfowl shooting and in order to ensure that the quality of such shooting is properly maintained, shooting should take place on a small number of days to be agreed with H.H. Maharaja, preferably not more often than once every two weeks (and never on other days) during the open seasons permitted by the law.

(3) That the privilege of grazing domestic animals in the Sanctuary should be strictly controlled in accordance with sound range management principles, which would certainly involve a drastic reduction in present numbers. The factors involved should be carefully studied :

for example, although dung deposited on dry land is carefully collected by the graziers for fuel and other purposes, it is possible that the domestic ungulates fertilize the water to the advantage of many water-bird species, and that this fertilization is a significant factor in the wildfowl concentrations. Nevertheless it is likely that something of the order of 1,500 domestic livestock feeding in the area would be far better land use practice from every point of view - Sanctuary, shooting and the interests of the livestock and their owners - than the present 5,600. The recent reduction of domestic grazing by excluding buffalo and cattle during the night is commended as a wise and practical limitation and should be continued.

(4) That at least 12 observation points should be constructed at very carefully selected points where numbers of birds or mammals may concentrate (or be persuaded to concentrate). It is vital that these huts be so placed, and the approaches so screened with reed walls, that observers and photographers can get into and out of the observation points without disturbing the birds or mammals which may be close-by. Details of a suitable type of hut are given in an Appendix.

(5) That disturbance to the breeding colonies of birds should be reduced by not allowing boats to go amongst the trees in the main breeding area (where observation towers would provide better facilities for photography). During our visit the boats went so close to the trees that some young birds fell into the water and were drowned. It is essential that boatmen employed in the Sanctuary should, like all other staff, be given a short training course and properly supervised.

(6) That facilities for the accommodation of tourists at the Rest House in the Sanctuary be improved and extended so as to be able to accommodate at least one busload of tourists (c. 30 - 35) - preferably two. Standards of comfort must conform to those expected by the majority of travellers visiting India, but this does not rule out the necessity for a proportion of simple, well-designed accommodation within the reach of lower income brackets.

(7) That the Rest House extension should include a dining room and lounge overlooking a substantial expanse of open water so that birds can be observed from these rooms (as well as some of the bedrooms). Mammals should also be accustomed to visiting the area immediately in front of the building by the judicious siting of a salt-lick and by providing an open grass area (periodically cut if necessary) to attract ungulate species to the fresh grass. Needless to say the domestic animals would have to be totally excluded from the Rest House vicinity.

(8) That the area in front of the Rest House should be regularly floodlit during the evening. A device to allow the lights to fade gradually at 11.0 p.m. or midnight, rather than being kept on all night, as is the practice at the very successful Tree Tops reserve in Kenya, would probably be best suited to local circumstances and to the 2-3 night stay in the Sanctuary which could be expected to interest the ordinary tourist.

(9) That a charge of 10 Rs per person be made for all foreign tourists visiting the Sanctuary, a contribution to the cost of its proper management which would certainly be willingly paid and indeed normally expected. Consideration could be given to introducing a token entry charge, say one rupee, for Indian nationals, if only to emphasize the value of the Sanctuary, but children, under 16 should be allowed in free.

(10) That there should be no introduction whatever of exotic species into the Sanctuary. As emphasized in our general report such introductions are always to be avoided and even re-introductions or artificial amplification of stocks of existing species needs very careful study if it is not to have adverse effects on the habitat and general balance of the fauna.

(11) That facilities be provided for School Parties to visit the Sanctuary and to be shown round by guides capable of explaining its objects and describing the fauna and flora in some detail. Such visits should include access to the special observation points from which the wildlife will be seen at especially close quarters.

(12) That facilities be provided for student field study in certain specified parts of the Sanctuary.

(13) That a small research station should be established to form a focal point for all scientific studies taking place in the Sanctuary. For this purpose funds might be sought from international sources such as the World Wildlife Fund.

(14) That very complete check lists be drawn up for the Sanctuary, available in printed form for the tourist, and that "field guides" on the Indian fauna and flora should also be available for purchase. It is of the highest importance that these should be scientifically impeccable. This need not make them in any way less attractive to the casual visitor, and the standards of the Sanctuary will be judged by the care with which this sort of literature is prepared.

(15) That as soon as the improved facilities exist (but on no account before), the Sanctuary and its unique interest should be publicized, both nationally and internationally, but especially the latter, on as wide a scale as possible.

For such publicity the assistance of many organizations is available and might well be sought, e.g. - The Fauna Preservation Society, the Audubon Society (U.S.A.), the Royal Society for the Protection of Birds (U.K.), the Frankfurt Zoological Society (West German Republic), the Wildfowl Trust (U.K.) and the World Wildlife Fund (Switzerland).