

# Oryx

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Oryx - The International Journal of Conservation, is now published quarterly by Cambridge University Press on behalf of Fauna & Flora International. It is a leading scientific journal of biodiversity conservation, conservation policy and sustainable use, with a particular interest in material that has the potential to improve conservation management and practice.

The website, <http://www.oryxthejournal.org/>, plays a vital role in the journal's capacity-building work. Amongst the site's many attributes is a compendium of sources of free software for researchers and details of how to access Oryx at reduced rates or for free in developing countries. The website also includes extracts from Oryx issues 10, 25 and 50 years ago, and a gallery of research photographs that provide a fascinating insight into the places, species and people described in the journal.

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# Railway threat to Kaziranga

Anwaruddin Choudhury

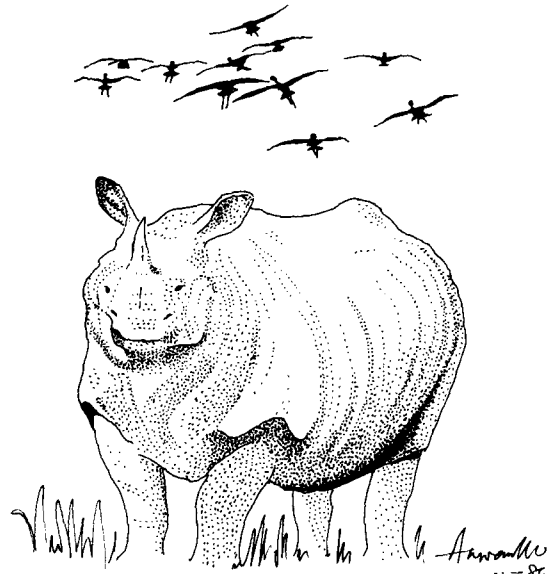
**Kaziranga, home of the world's largest population of the greater Indian rhinoceros, is under threat. The author, who is a magistrate in Guwahati, Assam, and who has published about 80 articles and papers, mainly on wildlife, is concerned about its future.**

Kaziranga National Park, in the Indian state of Assam, has a rich and varied fauna, but is probably best known as the home of the largest existing population of the greater Indian rhinoceros *Rhinoceros unicornis*. When Kaziranga was declared a reserve forest in 1908 it contained only a few dozen individuals (Gee, 1964). The reserve has been upgraded over the years—to a game sanctuary in 1916, a wildlife sanctuary in 1950 and a national park in 1974—and the rhinos benefited from conservation efforts. By 1984 they numbered 1080, concentrated mainly in the central, southern and western parts of the park.

The park now covers 430 sq km and is the largest unspoilt area of the Brahmaputra Valley (Figure 1). The Government has proposed a further addition of 454.5 sq km, including the Brahmaputra River, and this will be handed over to the park administration when ownership rights have been settled (Figure 2). The largest vegetation zone in Kaziranga is grassland, covering about 66 per cent of the area, with 28 per cent being moist deciduous and tropical semi-evergreen forests. Wetlands cover the remaining 6 per cent of the park.

Much of the park floods annually and the rhinos, along with other animals, seek refuge on the National Highway and at the foot of the Karbi plateau to the south. The Forest Department has built a number of earthen platforms inside the park, each 180 m long, 9 m wide and 3 m high, which are a retreat for a large number of animals

in the floods. Apart from rhino, the park is home to a vast array of mammals, some of which are listed in Table 1. The elephants are mainly seasonal and descend to the plains of the park from the Karbi plateau at the beginning of winter, ascending again at the advent of the floods. Most of those listed are common in various areas of the park, except for gaur, small numbers of which often come down from the Karbi plateau, and hoolock gibbon, of which a small population lives on the south-western boundary. The park also has a rich avifauna of more than 300 species.



Greater Indian rhinoceros; more than 1000 live in Kaziranga (Anwaruddin Choudhury).

## Conservation problems

Satisfaction at the admirable achievement in increasing rhino numbers is tempered somewhat by the fact that, although absolute numbers have increased, the population growth rate has declined over the last 10 years or so, mainly due to poaching for the horn. In 1966, 1968, 1969 and 1970 poachers killed five, ten, eight and two rhinos, respectively. In 1981 25 rhinos were killed, and in 1983 45–50 died in this way. In the first half of 1984 another 20–25 rhinos fell to poachers. It is reported that the increase in poaching is due to the rise in the price of horn in South East Asia—from Rs 33,600 per kg in 1969 to more than Rs 100,000 per kg in 1984—and it is exacerbated by the lack of boats and elephants for anti-poaching controls and by the poor pay of the forest guards, some of whom help the poachers.

Another problem arises from the lack of a protective buffer zone around the park, which has led to human/wildlife conflict. To the east, south

and west, the park boundary adjoins human habitation; wild animals ravage the crops of poor villagers, and domestic stock cross the boundary to graze. Domestic buffaloes have become feral in some places and are interbreeding with, and thus threatening, the survival of wild populations. Domestic stock also transmit disease to wild populations.

Kaziranga's present boundary is not demarcated by any natural features apart from the Brahmaputra River. During the seasonal flooding most of the animals move towards the southern highlands outside the protected area of the park. The Forest Department sought to remedy this situation by adding 32 sq km of land in the southern highlands of Karbi plateau to the park (Figure 2). The Department paid about Rs 500,000 to the local tribal administrative body for the land, but is not pursuing the matter seriously at present and the land has not yet been handed over.

Erosion by the Brahmaputra River, which washes the northern boundary of the park, has

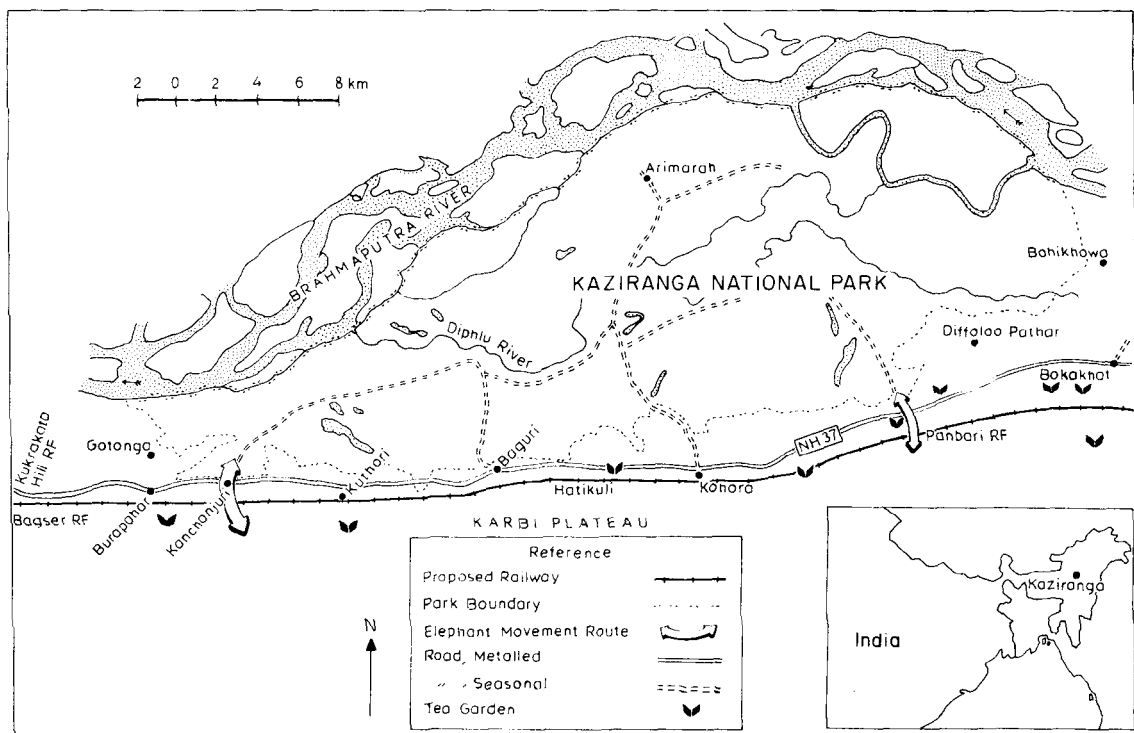
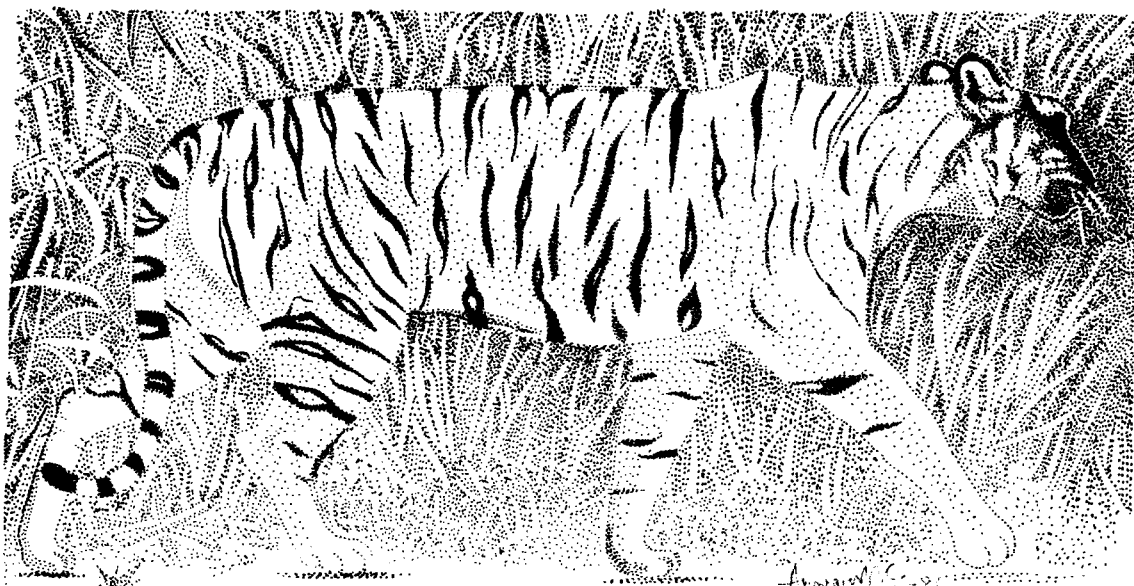


Figure 1. Map showing the location of Kaziranga National Park.



Kaziranga supports a good population of tigers (Anwaruddin Choudhury).

already destroyed a portion of park land including some of the best wildlife habitats. The busy National Highway No. 37, which runs through the southern boundary, is also giving cause for concern. It becomes busier every day, is open all day and night, and has encouraged settlements on either side, thus widening the gap between the park and the southern hills. The

biggest threat of all, however, is the proposed construction of a railway along the southern boundary. The survey and mapping for this project are now complete. Following opposition to the railway published in the press (Choudhury, 1985a, b), the original proposal was modified to include provision for three 30-m wide passes under the line to allow animals,

Table 1. Some of the mammal fauna of Kaziranga National Park and results of population counts where available

		1966	1972	1978	1984
Indian greater rhinoceros	<i>Rhinoceros unicornis</i>	366	658	939	1080
Asiatic or Indian elephant	<i>Elephas maximus</i>	349	422	773*	523
Tiger	<i>Panthera tigris</i>	20	30	40	52
Leopard	<i>Panthera pardus</i>				
Jungle cat	<i>Felis chaus</i>				
Leopard cat	<i>Felis bengalensis</i>				
Sloth bear	<i>Ursus ursinus</i>				
Asiatic black bear	<i>Ursus thibetanus</i>		Occasional		
Asian water buffalo	<i>Bubalus bubalis</i>	471	555	610	677
Muntjac	<i>Muntiacus muntjak</i>				
Swamp deer or barasingha	<i>Cervus duvauceli</i>	213	516	697	756
Sambar	<i>Cervus unicolor</i>	120	105	215	358
Hog deer	<i>Axis porcinus</i>	1311	4551	6855	9872
Gaur	<i>Bos gaurus</i>	1	18	23	30
Wild boar or pig	<i>Sus scrofa</i>	155	522	733	3645
Capped langur	<i>Presbytis pileata</i>				
Rhesus monkey	<i>Macaca mulatta</i>				
White-browed or hoolock gibbon	<i>Hylobates hoolock</i>				
Otter	<i>Lutra lutra</i>				

\*There were some anomalies in the counting of elephants in 1978. Some may have been counted more than once. Source of data: Forest Department, Government of Assam.

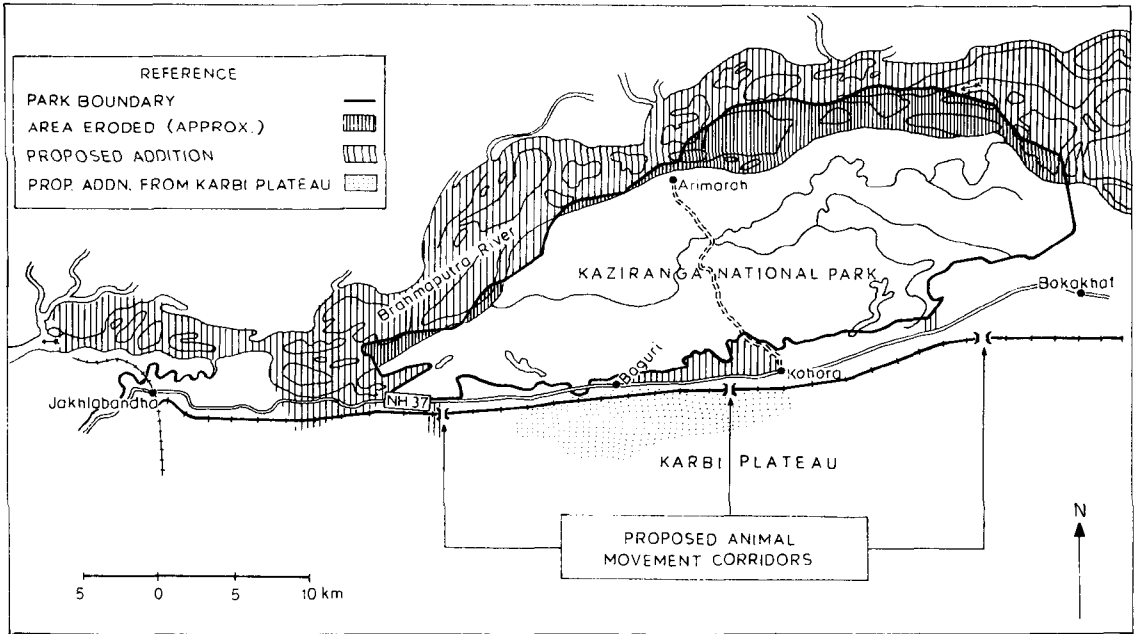
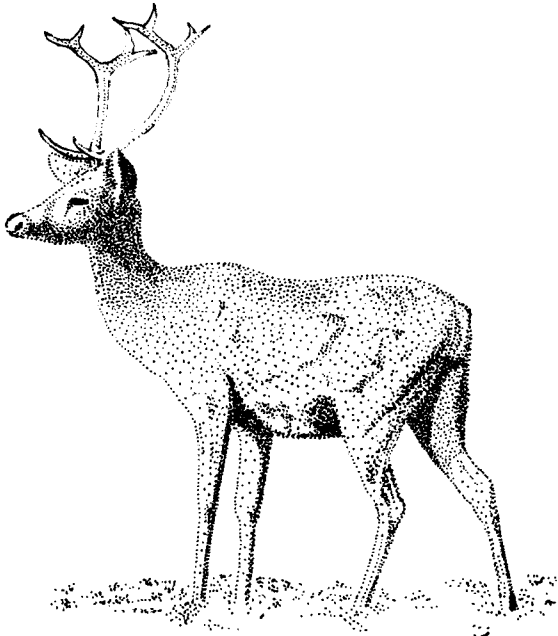


Figure 2. Map of Kaziranga National Park showing eroding areas and proposed additions.

especially elephants, to continue their seasonal migrations between Kaziranga and Karbi plateau. However, even with this modification the railway will still affect wildlife adversely.



Swamp deer, or barasingha, an inhabitant of the Kaziranga plains (Anwaruddin Choudhury).

Several things should be done to ensure the survival of Kaziranga. Firstly, the proposal for the railway should be shelved. Secondly, the adjoining reserve forests of Kukrakata, Bagser and Panbari and the northern slopes of Karbi plateau (about 500 sq km in all) should be added to the park. Thirdly, the boundary should be fenced to prevent human encroachment and domestic stock grazing. Fourthly, patrolling in and around the park should be intensified by using more elephants, boats and guards. Fifthly, steps should be taken to check erosion by the Brahmaputra River along the northern boundary. Finally, Kaziranga's exceptional importance should be recognized by incorporating it into the Man and Biosphere Programme and UNESCO's World Heritage Programme.

#### References

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