



A herd of wild Water Buffalo in Assam's Manas National Park © Anwaruddin Choudhury

Upward trend in numbers of the wild water buffalo (*Bubalus arnee*)

By Dr Anwaruddin Choudhury, The Rhino Foundation for Nature in NE India

Abstract

The Endangered wild water buffalo, (*Bubalus arnee*) which has suffered greatly owing to habitat loss, fragmentation and poaching, is slowly making a comeback, especially in Nepal and Assam, India. The Indian state of Assam continues to hold the bulk of the global population. Kaziranga and Manas in Assam, Dibru-Saikhowa and Kosi Tappu in Nepal and Huay Kha Khaeng in Thailand are the key protected areas for the species. Habitat loss and poaching continue to be threats for the species. This article reviews its current status across its range with updated in-

formation, comparing an initial assessment from 2010 to 2021.

Introduction

The wild water buffalo *Bubalus arnee* is rare and its range is small and highly fragmented. It has already vanished from most parts of its range. It is the ancestor of all the domestic varieties of buffalo in the world. It has been listed as Endangered (Kaul et al., 2019). The current distribution of wild water buffalo is confined to North-east and Central India and small pockets in Bhutan, Nepal, Thailand and Cambodia, and probably in Myanmar. The wild water buffalo is extinct in Bangladesh and Lao PDR, and is fast approaching this status in some of the above-listed countries. This article is updating that status in 2021, following previous assessments from more than 10 years earlier (Choudhury, 2010; 2014). Perhaps the earliest written documentation is found in *The Babur-Nama* ('Memoirs of Babur') (Babur 1529) and later on a good hunting account is

found in the memoirs of the Maharaja of Cooch Behar (The Maharajah of Cooch Behar, 1908).

North-east India

The current distribution of the wild buffalo in this region of India is mainly in the states of Assam, Arunachal Pradesh, Meghalaya and West Bengal. Assam is the stronghold of the wild water buffalo in the world having four-fifth of the known population. Kaziranga National Park has little more than half of the global population of the animal, more than 2,500 (up from 1963 in 2008). Some other key sites in Assam are Manas and Dibru-Saikhowa National Parks. In Manas there is continued increase, well over 500 now (up from 230 in 2008). The numbers in Laokhowa and Burhachapori Wildlife Sanctuaries are also likely to increase as some more habitat is being added to Burhachapori. The population in the unprotected areas of Dibrugarh (Kollolua-Jokai areas) is stable. The current numbers of the isolated herd in Dum Duma Reserved Forest is not known but has not increased.

The main population of Arunachal Pradesh is in D'Eing Memorial Wildlife Sanctuary, which is less than a hundred. Elsewhere the numbers in the *chapories* (riverine islets and tracts) of Dibang and Lohit rivers the small population may be on the decline. The small Meghalaya population which used to occur in Garo Hills and some adjacent areas of western Khasi Hills is nearing extirpation as there are no recent reports. The small population of northern West Bengal survives in eastern part of Buxa Tiger Reserve which regularly moves into Bhutan.

Central India

In Central India the key sites are Indravati National Park, Pamed and Udanti Wildlife Sanctuaries (all in Chhattisgarh) and Kolamarka Conservation Reserve (in Maharashtra). Owing to some

disturbance the current status in Indravati and Pamed are not known but there must be some population as the movement of animals across border in Maharashtra indicates. A small population of 16 animals was discovered in Maharashtra state in 2013, which has been given protection by creating the Kolamarka Conservation Reserve. The population was 35 in 2018 as per the census of the Forest Department (Kulkarni, 2019). In Chhattisgarh the numbers could be between 25 and 50. Currently there are a small number of buffaloes taken from Manas in Assam for breeding and potential future reintroduction in Udanti Sitanadi Tiger Reserve. Genetic and detailed morphometric assessment of both translocated and wild buffalo are highly recommended before any release occurs. The case of Maharashtra is an example where the numbers of buffalo is growing. This also indicates that there are populations in Indravati Tiger Reserve as some animals move between these two states. The ecosystem where the buffaloes of Central India live (relatively drier) is different from north-east India and further studies might reveal it to be a separate subspecies as well. Groves (1996) considered the Central Indian and Nepal buffaloes are different from Assam buffaloes and placed them as nominate subspecies. However, the Nepal and Assam buffaloes had population contiguity till early 20th century (Choudhury, 2010) and the type of the species was from northern Bengal (midway between Assam and Nepal) (Harper, 1940).

Nepal

The main buffalo area is Kosi Tappu Wildlife Reserve, where there is significant increase mainly due to lack of any natural predation (tiger has been extirpated, and the leopard is also very rare). This year's census showed a significant population of 498 buffaloes (up from 200 in

2010) (Mandal, 2021). Nepal has translocated some animals to Chitwan national park as a second home where currently 12 animals are surviving (Rimal, 2020). The Kosi Tappu population is likely to continue to increase.

Bhutan, Thailand and Cambodia

In Bhutan there is no resident population but herds and individuals regularly occur as they move between Assam and Bhutan (Choudhury, 2008). With the improvement in Manas in Assam the visiting Bhutan population is also increasing. Elsewhere the only key site for the species is Huai Kha Khaeng Sanctuary in Thailand. Unfortunately the numbers are below 50 and there is no sign of any increase. There is also no recent report from Cambodia where a few survived in Mondulkiri province.

Conservation

Choudhury (1994) had estimated a global population of 3,300–3,500 but soon the Manas population of around 1,200 started to decline sharply owing to widespread poaching. As a result, the global estimates for a decade and half later also almost remained same (Choudhury, 2010; 2014), i.e. 3,400–3,500. But with the improvement of protection measures in Manas and owing to rise

in numbers in Kaziranga and Nepal, the total population has shown improvement. The current estimate with visible increase in Kaziranga, Manas and Kosi Tappu is about 4,690 (range 4,600 – 4,800), which is a positive sign (Table 1).

However, the buffalo is still threatened with extinction across its range as the population is still not large enough and habitat has remained as it was, with little possibility of increase after some time. More than half of its populations are inside a single protected area (Kaziranga National Park, Assam in North-east India). So far 10+ separate populations/subpopulations have already been formed in what were once largely contiguous populations. Many of these are nonviable and susceptible to genetic degradation. Wild buffaloes have experienced a severe decline due to habitat destruction, poaching for meat, competition and disease transmission from domestic stock, possible hybridization, insurgency and invasion of exotic weeds.

The Wild Buffalo has been declared as the State Animal of Chhattisgarh. At least 13 national parks and sanctuaries across its range protect the species. It is also protected under law in most of the range countries.

Table 1. Estimates of Wild Water Buffalo

| Country | Province/State | Number of Wild Buffalo* | |
|--------------|--------------------------------|-------------------------|-------------------------------|
| | | In Choudhury (2010) | Current estimate |
| India | Assam | 2,800 | 3,800 |
| | Arunachal Pradesh | 200 | 150 |
| | Meghalaya | 50 | <40 |
| | Other States | <50 | >70 |
| | India Total | 3,100 | 4,070 |
| Nepal | | 200 | 510 |
| Thailand | | 50 | 50 |
| Cambodia | | <20 | <20 |
| Bhutan | | <30 | <40 |
| | Rest of the World Total | 300 | 620 |
| TOTAL | | 3,400 | 4,690 (4,600–4,800) |



A 'big' bull with a cow on the Sapt Kosi River in Nepal's Kosi Tappu Wildlife Reserve © Anwaruddin Choudhury

Recommendations have been made for effective protection and management of the existing protected areas, fencing with metal railings in some areas, control of poaching, involvement of local communities in conservation, detailed surveys in Myanmar, Lao PDR and Vietnam, population estimate and monitoring at regular intervals, genetic study, removal of exotic weeds, reintroduction in select former habitats, check on encroachment, eviction of encroachers, creation of new protected areas, extension of existing protected areas and conservation education (Choudhury, 2010; 2014; Kaul et al. 2019). It is time now for setting a target as done by "Indian Rhino Vision" to attain a wild population of at least 3,000 *Rhinoceros unicornis* by 2020, in case of buffalo to attain a population of at least 7,000 by 2030.

References

- Babur, Zahiru'd-din Muhammad (1529). *The Babur-nama* (Memoirs of Babur). Translated from the original Turki text by Annette Susannah Beveridge (1917, 1921). Vol. II sold by Luzac & Co, 46, Great Russell Street, London, UK. (1922). The Memoirs of Babur. Section III. Hindustan
- Choudhury, A. U. (1994). The decline of Wild water buffalo in Northeastern India. *Oryx* 28(1): 70–73.
- Choudhury, A. U. (2008). Distribution and status of the wild water buffalo *Bubalus arnee* in Bhutan. *J. Bombay nat. Hist. Soc.* 105 (3): 332–335.
- Choudhury, A. U. (2010). *The vanishing herds: wild water buffalo*. Gibbon Books & The Rhino Foundation for Nature in North East India, Guwahati, India. Pp. 184.
- Choudhury, A. U. (2014). Wild water buffalo *Bubalus arnee* (Kerr, 1792). Pp. 255–301. In: Melletti, M. & Burton, J. (eds.), *Ecology, Evolution and Behaviour of Wild Cattle: Implications for Conservation*. Cambridge University Press, UK.
- Groves, C. P. (1996). The taxonomy of the Asian wild buffalo from the Asian mainland. *Zeitschrift für Säugetierkunde* 61: 327–338.
- Harper, F. (1940). The nomenclature and type localities of certain old world mammals. *Journal of Mammalogy* 21: 191–203, 322–332.
- Kaul, R., Williams, A.C., Rithe, K., Steinmetz, R. & Mishra, R. (2019). *Bubalus arnee*. *The IUCN Red List of Threatened Species* 2019: e.T3129A46364616. <https://dx.doi.org/10.2305/IUCN.UK.2019-1.RLTS.T3129A46364616.en>.
- Kulkarni, D. (2019). Maharashtra: Gadchiroli district sees rise in buffalo population. www.dnaindia-com.cdn.ampproject.org
- Mandal, C.K. (2021). New census shows wild buffalo numbers up 13 per cent in Koshi Tappu. www.kathmandipost.com
- Rimal, T.R. (2020). Relocated Arna gives birth to a calf in Chitwan National Park'. *The Himalayan*, Kathmandu. Nov 25.
- The Maharajah of Cooch Behar (1908). *Thirty-seven years of big game shooting in Cooch Behar, the Duars and Assam: A rough Diary*. The Times Press, Bombay, India [reprinted in 1985 as *Big game shooting in eastern and north eastern India* by Mittal Publications, India].