# Trung Khanh Nature Reserve

**Alternative site name(s)**
Ban Doc waterfall, Ban Gioc waterfall
**Province(s)**
Cao Bang
**Status**
Decreed
**Management board established**
No
**Latitude**
22º51'N
**Longitude**
106º44'E
**Bio-unit**
06a – Tropical South China


## Conservation status

Trung Khanh Nature Reserve is located in Trung Khanh district, Cao Bang province. Trung Khanh was decreed as a 3,000 ha nature reserve on Decision 194/CT of the Chairman of the Council of Ministers, dated 9 August 1986 (MARD 1997) with the main objective of conserving Chinese Forest Musk Deer *Moschus berezovskii*. However, a management board was never formed and the precise boundary of the nature reserve was never defined. In fact, there exists no official document that indicates where in Trung Khanh district the nature reserve is to be established (Tordoff *et al.* 2000). The 2010 list includes a proposal to expand the nature reserve to 10,000 ha (FPD 1998).

Using 1995 Landsat data, Wege *et al.* (1999) calculated that Trung Khanh Nature Reserve supported only 48 ha of natural forest in a total area of 9,092 ha. Consequently, they recommended that the management category of Trung Khanh Nature Reserve be reviewed. Due to uncertainty concerning the location of the nature reserve and limitations of the remote sensing data used in the analysis, a rapid field survey was made during November 1999 to ground truth these data (Tordoff *et al.* 2000). Following this rapid field survey, Tordoff *et al.* (2000) recommended that Trung Khanh Nature Reserve should be taken off the list of Special-use Forests in Vietnam.

## Topography and hydrology

The topography of Trung Khanh district is characterised by low mountains in the south of the district and limestone karst in the north. Elevations in the district range between c.400 and c.900 m.

## Biodiversity value

Trung Khanh district is almost entirely devoid of natural forest. Land-use data from Trung Khanh District Forest Protection Department indicate that significant areas of forest remain only in the south of Dam Thuy and Chi Vien communes, in the east of the district. These data indicate that the two communes support a total of 1,682 ha of natural forest. However, a 1998 land-use map held at Cao Bang Provincial Forest Development Department, which was ground-truthed during a recent rapid field survey, reveals that only 846 ha of natural forest remain in the south of Dam Thuy and Chi Vien communes (Tordoff *et al.* 2000).

The original vegetation types in Dam Thuy and Chi Vien communes were limestone forest in the north and lower montane evergreen forest in the south. However,

the limestone forest has been totally cleared and the lower montane evergreen forest has been heavily disturbed and is secondary in places. The dominant vegetation type in the two communes is low scrub, which shows little sign of regeneration, probably because of continued human impact (Tordoff *et al.* 2000).

Hunting pressure and habitat loss have taken their toll on mammal populations. It would appear that most mammal species of conservation significance have either been eradicated from the area or reduced to relict populations. In 1965, Black Gibbon *Hylobates concolor* was collected in Trung Khanh district (Fooden 1996), and in 1969, Chinese Forest Musk Deer was collected there (Corbet and Hill 1992). However, a recent rapid field survey was unable to confirm the continued presence of either species in the area (Tordoff *et al.* 2000).

## Conservation issues

The biodiversity value of Trung Khanh district has already declined significantly as a result of habitat loss and hunting. Almost all of the limestone forest in the district has been destroyed by clearance for agriculture, and extraction of timber, firewood and other forest products, for both domestic use and illegal export to China. Remaining areas of forest are fragmented and too small to support viable populations of many mammal species. Furthermore, surviving mammal populations are under pressure from hunting, and species such as Black Gibbon and Chinese Forest Musk Deer may already have been eradicated from the area (Tordoff *et al.* 2000).

Uncontrolled and unsustainable timber extraction, firewood collection and clearance of land for agriculture have taken place over such a long period of time that there is now almost no natural forest remaining in Trung Khanh district. Presently, the dominant vegetation types are scrub, grassland and bare limestone karst. In some areas that have been cleared of natural vegetation, the limestone karst is now being quarried. Due to the scarcity of timber, firewood and other forest products, the pressure on remaining fragments of natural forest is very high, and it is likely that the condition and extent of these areas will deteriorate rapidly. Because of the loss of forest cover in the district, it is now impossible to identify a suitable boundary for Trung Khanh Nature Reserve (Tordoff *et al.* 2000).

## Other documented values

Ban Doc waterfall, the largest waterfall in Vietnam, is situated in the east of Trung Khanh district, on the Chinese border. Cao Bang Provincial People's Committee wish to develop this waterfall, along with a nearby cave, as a site for tourism (Tordoff *et al.* 2000).

## Related projects

No information.

## Literature sources

Cao Bang Provincial DARD (2000) [FPD questionnaire]. Cao Bang: Cao Bang Provincial Department of Agriculture and Rural Development. In Vietnamese.

Corbet, G. B. and Hill, J. E. (1992) The mammals of the Indomalayan Region. Oxford: Oxford University Press.

Fooden, J. (1996) Zoogeography of Vietnamese primates. Int. Journ. Primatology 17: 845-899.

Tordoff, A. W., Vu Van Dung, Le Van Cham, Tran Quang Ngoc and Dang Thang Long (2000) A rapid field survey of five sites in Bac Kan, Cao Bang and Quang Ninh provinces: a review of the Northern Indochina Subtropical Forests Ecoregion. Hanoi: BirdLife International Vietnam Programme and the Forest Inventory and Planning Institute. In English and Vietnamese.