

# Xuan Lien Proposed Nature Reserve

## Alternative site name(s)

None

## Province(s)

Thanh Hoa

## Status

Proposed

## Management board established

Unknown

## Latitude

19°52' - 20°02'N

## Longitude

104°58' - 105°15'E

## Bio-unit

10b - Northern Indochina



## Conservation status

Xuan Lien is not included on any official government decision regarding the Special-use Forests system. However, in 1997, Thanh Hoa Provincial FPD submitted a proposal to MARD to establish the upstream area of the Chu river catchment in Thuong Xuan district as Xuan Lien Nature Reserve. Consequently, in October and November 1998, FIPI and the BirdLife International Vietnam Programme, in collaboration with Thanh Hoa Provincial FPD, compiled a feasibility study for Xuan Lien proposed nature reserve (Le Trong Trai *et al.* 1999).

After the contents of the feasibility study were approved by Thanh Hoa Provincial People's Committee in early 1999, an investment plan was prepared by FIPI. This investment plan was approved by MARD on 9 December 1999, by Official Letter No. 4511/BNH-KH, and by the provincial people's committee on 17 December 1999, by Decision No. 3029/QĐ-UB (Thanh Hoa Provincial FPD 2000). Xuan Lien is included on the 2010 list as a 23,610 ha nature reserve (FPD 1998).

The feasibility study proposed two options for the boundary: one enclosing an area of 16,500 ha and one enclosing 23,610 ha (Le Trong Trai *et al.* 1999). Thanh Hoa Provincial FPD (2000), however, give the total

area of the proposed nature reserve as 21,000 ha, comprising a strict protection area of 19,800 ha and a forest rehabilitation area of 1,200 ha. In addition, the provincial FPD give the area of the buffer zone as 40,259 ha.

## Topography and hydrology

Xuan Lien proposed nature reserve is situated in western Thanh Hoa province, close to the international border with Laos. The area is bordered by the Cao river to the north, the provincial border with Nghe An to the south and west, and Mounts Ta Leo and Bu Khong and the confluence of the Cao and Chu Rivers to the east (Le Trong Trai *et al.* 1999).

The proposed nature reserve is situated in a belt of mountains running from Sam Neua in Laos to Thuong Xuan and Nhu Xuan districts in Thanh Hoa province. These mountains contain many high peaks, such as Mount Ta Leo (1,400 m), Mount Bu Cho (1,563 m), Mount Bu Hon Han (1,208 m) and an unnamed 1,605 m peak, which is the highest point in the proposed nature reserve. The geology of the area is varied and includes sedimentary material, schist, spilite, aldezite, and other metamorphic rocks such as marble and mica (Le Trong Trai *et al.* 1999).

The topography of the site is characterised by medium-high mountains, which reach elevations of

800 to 1,600 m, and are dissected by deep, narrow valleys, sloping steeply from west to east. The topography of the east of the site is characterised by gently sloping foothills. Many of the numerous rivers in the area have relatively flat, fertile valleys in their lower sections. The proposed nature reserve is drained by the Chu river and its tributaries. The Chu River originates in Laos and flows through Nghe An province before passing through the proposed nature reserve (Le Trong Trai *et al.* 1999).

## Biodiversity value

During October and November 1998, BirdLife and FIPI conducted a field survey of Xuan Lien proposed nature reserve, in order to collect data for the feasibility study. During this survey, 560 species of vascular plants were recorded, including 222 timber species, 31 ornamental species and 116 species with known medicinal uses. The flora of Xuan Lien proposed nature reserve is characterised by taxa indigenous to northern Vietnam and southern China. Two other major elements to the flora include an Indo-Malayan element and a temperate Sino-Himalayan element, which is characteristic of Yunnan province and the Himalayan foothills. This later includes several conifers and a number of broadleaf deciduous tree species. Of the 560 species recorded at Xuan Lien, four are endemic to Vietnam (*Cinnamomum balansae*, *Colona poilanei*, *Croton boniana* and *Macaranga balansae*) and six are listed in the *IUCN Red List of Threatened Plants* (Le Trong Trai *et al.* 1999).

Four main forest types are found at Xuan Lien. Firstly, lower montane mixed coniferous and broadleaf evergreen forest covers roughly 18% of the proposed nature reserve, and is found at elevations from 800 m upwards. This forest type is dominated by broadleaf trees from the Fagaceae, Lauraceae and Dipterocarpaceae families, although coniferous trees, such as *Podocarpus imbricatus*, *Cunninghamia konishii* and *Fokienia hodginsii* are scattered throughout this forest type. On a few exposed ridges and summits above 1,400 m in altitude, elfin forest formations occur. The second main forest type is lowland evergreen forest, which is found below 800 m. This forest type has been extensively cleared and degraded, and only accounts for 3% of the total area of the site. The third and fourth main forest types are

regenerating forest and mixed bamboo and timber forest, both of which are secondary vegetation types, developed following exploitation of the forest. The remaining vegetation at the site comprises pure bamboo, grassland and scrub (Le Trong Trai *et al.* 1999).

The FIPI/Birdlife survey revealed moderate levels of faunal diversity relative to other protected areas in northern and central Vietnam. In total, 38 species of mammals were recorded, ten of which are globally threatened. Mammal species of particular conservation significance recorded during the survey included Gaur *Bos gaurus*, Phayre's Leaf Monkey *Semnopithecus phayrei*, White-cheeked Gibbon *Hylobates leucogenys* and Roosevelt's Muntjac *Muntiacus rooseveltorum*. The record of Roosevelt's Muntjac was the first since the discovery of this species in Laos 69 years previously, and the first record of this species from Vietnam. A total of 134 bird species were recorded during the survey, including one restricted-range species: Short-tailed Scimitar Babbler *Jabouilleia danjoui* (Le Trong Trai *et al.* 1999).

## Conservation issues

Populations of many of the large mammal species recorded at Xuan Lien during the FIPI/BirdLife survey are considered to be small and fragmented as a result of high hunting pressure. Furthermore, it is unlikely that Xuan Lien proposed nature reserve is large enough, by itself, to maintain viable populations of these species. However, Xuan Lien proposed nature reserve is contiguous with Pu Hoat proposed nature reserve in Nghe An province, with a shared boundary of 20 km and a combined protected area coverage of around 90,000 ha (Le Trong Trai *et al.* 1999).

Thanh Hoa Provincial FPD (2000) identify the biggest threats to biodiversity at Xuan Lien proposed nature reserve to be forest clearance for agriculture, hunting, over-exploitation of forest products and forest fire.

## Other documented values

The forest at Xuan Lien proposed nature reserve plays an important role in protecting the watershed of the Chu river. This river is the second largest in Thanh

Hoa province, and is important for the transportation of goods and produce, domestic use, irrigation and drainage. In addition, the Chu river will be the principal source of water for the proposed Cua Dat irrigation and hydro-electricity dam (Le Trong Trai *et al.* 1999).

## Related projects

There is a project to construct an irrigation and hydro-electric dam on the Chu river at Cua Dat. As well as generating electricity, the dam will regulate the flow of water to a large area of agricultural land in Thanh Hoa province. If this project goes ahead, an area of 1,716 ha within the proposed nature reserve will be inundated by the resulting reservoir (Le Trong Trai *et al.* 1999).

## Literature sources

Le Trong Trai, Le Van Cham, Bui Dac Tuyen, Tran Hieu Minh, Tran Quang Ngoc, Nguyen Van Sang, Monastyrskii, A. L. and Eames, J. C. (1998) [[A feasibility study for the establishment of Xuan Lien Nature Reserve, Thanh Hoa province](#)]. Hanoi: BirdLife International Vietnam Programme and the Forest Inventory and Planning Institute. In Vietnamese.

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