

Ngoc Linh (Kon Tum) Nature Reserve

Alternative site name(s)

Ngoc Linh

Province(s)

Kon Tum

Status

Decreed

Management board established

Yes

Latitude

15°00' - 15°18'N

Longitude

107°41' - 108°01'E

Bio-unit

Mb - Dalat Plateau



Conservation status

Ngoc Linh was included on Decision No. 194/CT of the Chairman of the Council of Ministers, dated 9 August 1986, which decreed the establishment of a 20,000 ha nature reserve in the former Gia Lai-Kon Tum province (now Kon Tum and Gia Lai provinces) (MARD 1997). In 1993, Kon Tum province and the former Quang Nam-Da Nang province (now Quang Nam province and Da Nang city) requested the permission of the former Ministry of Forestry to jointly develop an investment plan for Ngoc Linh Nature Reserve. The Ministry of Forestry approved the draft framework of the investment plan that same year, while North-western Sub-FIPI conducted a field survey of the site, collecting relevant data for the production of an investment plan. This investment plan was published in 1994, and proposed establishing a 51,053 ha nature reserve (Anon. 1994). However, because the proposed nature reserve was situated in two provinces, the investment plan was not approved at the ministerial level (Anon. 1998).

In 1997, a proposal to establish Ngoc Linh as a 50,000 ha nature reserve in Quang Nam and Kon Tum provinces was included on the 2010 list (FPD 1998). In 1998, an investment plan for a 41,420 ha nature reserve in Kon Tum province was prepared by FIPI and BirdLife International (Anon. 1998). This investment

plan was approved by Kon Tum Provincial People's Committee on 12 October 1998, by Official Letter No. 69/TT-UB, and by MARD on 9 February 1999, by Decision No. 559/BNN-KH (Le Trong Trai pers. comm.). Ngoc Linh (Kon Tum) is included on a proposed list of Special-use Forests currently being prepared by FPD and FIPI as a 41,424 ha nature reserve (FPD and FIPI in prep.).

Topography and hydrology

Ngoc Linh (Kon Tum) Nature Reserve is located within Dac Glei and Dac To districts in the mountainous north of Kon Tum province. The nature reserve is situated in an area of the Central Highlands known as the Kon Tum plateau. The nature reserve contains a number of high, steep-sided mountains, such as Ngoc Tion (2,032 m), Ngoc Peukpee (1,728 m) and Ngoc Lum Heo (2,030 m) in the north of the nature reserve, and Ngoc Lepho (2,070 m) and Ngoc Pa (2,251 m) in the south-east. The highest peak in the nature reserve is Mount Ngoc Linh itself, which attains an altitude of 2,598 m, and slopes steeply from the summit down to 300 m in Dac My valley. Mount Ngoc Linh is the highest mountain in the Central Highlands. In the south-west of the nature reserve, the slopes are shallower, and altitudes range from 900 to 1,200 m (Le Trong Trai *et al.* 1999).

In general, river systems in Ngoc Linh (Kon Tum) Nature Reserve are narrow, high-energy, montane rivers. During the rainy season, rivers undergo pulse-flow events, resulting in sudden floods that can cause extensive erosion of riverbanks. Flood damage to low-lying areas is common, particularly to agricultural areas and irrigation projects. Groundwater run-off occurs at a high rate, as alluvial soils in the region are coarse grained, with a high proportion of sand, and very porous (Le Trong Trai *et al.* 1999).

The mountains of Ngoc Linh Nature Reserve comprise the upstream water catchments of three main river systems: the Dac Mek, Dac Po Ko and Dac Plo rivers. The Dac Mek river flows north, into Quang Nam province, where it joins the Dac Se river, which flows into the East Sea at Da Nang city. The Dac Po Ko river, which flows south through Kon Tum province, is one of the most important water sources for the Ya Ly hydro-electric power station. The Dac Plo river, which flows west, into Laos, is part of the catchment of the Mekong River (Le Trong Trai *et al.* 1999).

Biodiversity value

Eighty eight percent of the total area of Ngoc Linh (Kon Tum) Nature Reserve is covered by forest. The primary forest cover is also high and occupies approximately 60% of the total area of the nature reserve. The main forest types found at Ngoc Linh (Kon Tum) Nature Reserve are lower montane evergreen forest and upper montane evergreen forest (Le Trong Trai *et al.* 1999).

Upper montane evergreen forest occurs at elevations above 2,000 m. This forest type is largely undisturbed, and is dominated by species in the Lauraceae, Fagaceae, Theaceae, Araliaceae, Magnoliaceae and Aceraceae families. Dominant species include *Pentaphylax* spp., *Quercus* spp., *Lithocarpus* spp., *Castanopsis* spp., *Litsea verticillata*, *Symplocos cochinchinensis*, *Eurya japonica*, *Elaeocarpus* spp., *Exbucklandia tonkinensis*, *E. populnea*, and *Turpinia montana*. Also present are conifers, such as *Podocarpus imbricatus*, *P. neriifolius*, *Pinus dalatensis* and *Dacrydium elatum* (Le Trong Trai *et al.* 1999).

Lower montane evergreen forest occurs at elevations between 1,000 and 2,000 m. This forest type is dominated by broadleaf evergreen tree species, typically members of the Fagaceae and Lauraceae families, such as *Lithocarpus* spp., *Quercus* spp. and *Cinnamomum* spp. The natural vegetation type below 1,000 m is lowland evergreen forest, although this has been extensively disturbed by logging and cleared by shifting cultivation, to a point where elevations below 1,000 m are now dominated by secondary vegetation types (Le Trong Trai *et al.* 1999).

Two field surveys conducted by BirdLife and FIPI in 1996 and 1998 recorded 878 vascular plant species at Ngoc Linh (Kon Tum) Nature Reserve, of which 19 are listed in the 1997 IUCN Red List of Threatened Plants and 34 are listed in the Red Data Book of Vietnam. Nine plant species found at Ngoc Linh (Kon Tum) are endemic to Vietnam: *Panax vietnamensis*, *Pinus dalatensis*, *Amentotaxus poilanei*, *Cinnamomum balansae*, *Alchornea annamensis*, *Baccaurea silvestris*, *Bulbophyllum evrardii*, *Otochilus fuscus* and *Calamus poilanei* (Le Trong Trai *et al.* 1999).

The same surveys documented a total of 306 vertebrate species at Ngoc Linh (Kon Tum) Nature Reserve, comprising 52 species of mammal, 190 species of bird, 41 species of reptile and 23 species of amphibian. Identification of hunting trophies revealed the presence of two recently described mammal species: Giant Muntjac *Megamuntiacus vuquangensis* and Truong Son Muntjac *Muntiacus truongsongensis* (Le Trong Trai *et al.* 1999).

A total of 10 bird species recorded at Ngoc Linh (Kon Tum) are globally threatened or near threatened. Moreover, two new bird species were discovered at the nature reserve: Golden-winged Laughingthrush *Garrulax ngoclinhensis* (Eames *et al.* 1999a) and Black-crowned Barwing *Actinodura sodangorum* (Eames *et al.* 1999b). These were the first new bird species to be discovered in mainland South-East Asia for 30 years. In addition to the two newly described species, five other restricted-range bird species were recorded at Ngoc Linh (Kon Tum): Crested Argus *Rheinardia ocellata*, Yellow-billed Nuthatch *Sitta solangiae*, White-cheeked Laughingthrush *Garrulax vassali*, Black-hooded Laughingthrush *G. milleti* and Short-tailed Scimitar Babbler *Jabouilleia danjoui*. Therefore, the site qualifies for inclusion in the Kon

Ngoc Linh (Kon Tum) Nature Reserve

Tum Plateau Endemic Bird Area (Le Trong Trai *et al.* 1999).

Conservation issues

A buffer zone of 59,767 ha has been defined for Ngoc Linh (Kon Tum) Nature Reserve. A total of 13,876 people live in the buffer zone, most of whom belong to the Xe Dang, De and Trieng De ethnic groups. The main agricultural practices in the buffer zone are wet rice cultivation and swidden agriculture. The four major threats to biodiversity at Ngoc Linh (Kon Tum) are perceived to be forest clearance for agriculture, hunting of forest animals, illegal exploitation of forest products and forest fire. There are also five state forest enterprises operating in the area. Although, only Rung Thong Forest Enterprise is still extracting timber, at a rate of 6,000 m³ per year (Le Trong Trai *et al.* 1999).

A management board for Ngoc Linh (Kon Tum) Nature Reserve has been established, with 53 members of staff, including 42 forest guards. The forest guards are based at the nature reserve headquarters and seven guard stations. The nature reserve staff are equipped with communications equipment, a car and ten motorbikes (Kon Tum Provincial FPD 2000).

Other documented values

The forest at Ngoc Linh (Kon Tum) Nature Reserve performs an important role in upstream watershed protection for several of the large rivers in Quang Nam and Kon Tum provinces. These rivers supply irrigation water for thousands of hectares of agricultural land, and are the main source of water for domestic use for thousands of downstream households. In addition, forest at Ngoc Linh (Kon Tum) protects part of the watershed of the Ya Ly hydro-electric power station (Le Trong Trai *et al.* 1999).

Related projects

No information.

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