

Vu Quang Nature Reserve

Alternative site name(s)

None

Province(s)

Ha Tinh

Status

Decreed

Management board established

Yes

Latitude

18°09' - 18°25'N

Longitude

105°16' - 105°36'E

Bio-unit

05c - North Annam



Conservation status

During the French colonial period, Vu Quang was designated as a forest reserve, with an area of about 30,000 ha. Because of this classification, the area was closed to local communities. In the 1960s, Trai Tu Forest Enterprise was established, incorporating much of what is now Vu Quang Nature Reserve. In 1977, Trai Tu was divided into Trai Tu and Vu Quang Forest Enterprises. The area of Vu Quang Forest Enterprise was 32,000 ha, and the main management objective was forest exploitation; commercial logging activities continued at Vu Quang until 1993 (Eve 2000).

On 9 August 1986, Vu Quang was included on Decision No. 194/CT of the Chairman of the Council of Ministers as a 16,000 ha nature reserve (MARD 1997). In 1993, an investment plan was prepared by FIPI and WWF, which proposed establishing a 55,950 ha nature reserve, comprising a 38,300 ha strict protection area and a 17,650 ha forest rehabilitation area (Anon. 1993). On 16 March 1994, this investment plan was approved by Ha Tinh Provincial People's Committee, following Decision No. 483/QD-UB. Subsequently, on 14 June 1994, a management board was established by the provincial people's committee, following Decision No. 829/QD-UB. Finally, on 18 May 1998, the management of the strict protection and forest rehabilitation areas was transferred to the nature

reserve management board, following Decision No. 562/QD-UB-NL2 of the provincial people's committee. The total area transferred was 54,743 ha, comprising a strict protection area of 39,217 ha and a forest rehabilitation area of 15,526 ha (Eve 2000). These are the figures given by Ha Tinh Provincial DARD (2000) as the current area of the nature reserve.

In 2000, a draft management plan was prepared for the nature reserve by the *WWF Indochina Programme-Vu Quang Conservation Project* (Eve 2000). Vu Quang Nature Reserve is currently under the management of Ha Tinh Provincial DARD (Ha Tinh Provincial DARD 2000). Vu Quang is included on the 2010 list as a 55,950 ha nature reserve, including 36,286 ha of forest (FPD 1998).

Topography and hydrology

Vu Quang Nature Reserve is located in Huong Son and Huong Khe districts, Ha Tinh province. The nature reserve is situated towards the northern end of the Annamite Mountains. The nature reserve contains an elevation gradient of over 2,000 m, from 30 m in the lowlands in the north-east of the nature reserve to 2,286 m at the summit of Mount Rao Co, on the border with Laos.

Vu Quang Nature Reserve contains the catchments of three rivers: the Nam Truoi, Rao No and Khe Tre

rivers. These rivers originate in the south of the nature reserve as steep, narrow, fast-flowing streams, although, as they flow north, they become broader and more placid.

Biodiversity value

At low elevations, the landscape of Vu Quang Nature Reserve is largely anthropogenic and consists of many elements including human habitation, agricultural land, grassland and scrub. There are also a few remaining patches of natural forest on steep and inaccessible slopes, and isolated stands of trees and bamboo along rivers and streams. At medium elevations, deeper within the nature reserve, the landscape consists of open secondary forest and other seral forest formations. Between 100 and 500 m, much of the forest has been selectively logged, although, above 500 m, the slopes are covered by primary forest (Eames *et al.* in prep.).

There are five major forest types at Vu Quang Nature Reserve. Lowland evergreen forest, which formerly covered much of the nature reserve, is distributed at elevations between 100 and 300 m in the north and north-east of the nature reserve. Lower montane evergreen forest is distributed at elevations between 300 and 1,000 m in the centre of the nature reserve, with some small patches in the north and north-east. Medium montane evergreen forest is distributed at elevations between 1,000 and 1,400 m, along a narrow strip, stretching from the west to the south-east of the nature reserve. This forest type is dominated by broadleaf trees but supports some coniferous species in the Podocarpaceae and Cupressaceae families, such as *Fokienia hodginsii*. Upper montane evergreen forest is distributed at elevations between 1,400 and 1,900 m on steep slopes and ridges in the south and south-west of the nature reserve. This forest type supports some conifers but is dominated by members of the Elaeocarpaceae, Fagaceae, Lauraceae and Magnoliaceae families. At 1,500 m, near the Laotian border, the forest is characterised by the presence of the conifer *Keteleeria evelyniana*. Elfin forest is distributed at elevations between 1,900 and 2,200 m in the southernmost part of the nature reserve. At these elevations, continuous cloud cover and high precipitation favour the development of forest dominated by *Rhododendron*,

together with members of the Fagaceae, Lauraceae, and Elaeocarpaceae families (Eames *et al.* in prep.).

In 1992, the attention of the world scientific community was focussed on Vu Quang Nature Reserve, following the discovery of a previously undescribed large mammal species, Saola *Pseudoryx nghetinhensis* (Vu Van Dung *et al.* 1993). In 1993, this discovery was followed by that of another large mammal species, Giant Muntjac *Megamuntiacus vuquangensis* (Do Tuoc *et al.* 1994). In the years since these discoveries, however, both species have been recorded at a number of other sites in Vietnam and Laos (e.g. Le Trong Trai *et al.* 1999). Consequently, the importance of Vu Quang as a site for mammal conservation may not be as high as was at one time supposed, although the site does support populations of a number of other mammal species of conservation concern, including Gaur *Bos gaurus* and Red-shanked Douc Langur *Pygathrix nemaeus nemaeus* (Eve 2000).

A total of 273 bird species are known from Vu Quang Nature Reserve, including 21 globally threatened or near-threatened species (Eames *et al.* in prep.). Vu Quang Nature Reserve lies in the Annamese Lowlands Endemic Bird Area (EBA) (Stattersfield *et al.* 1998). However, the site only supports three restricted-range species, Crested Argus *Rheinardia ocellata*, Short-tailed Scimitar Babbler *Jabouilleia danjoui* and Grey-faced Tit Babbler *Macronous kelleyi*, none of which are restricted to the EBA. In addition, results of a complementarity analysis with 13 other protected areas in the Annamese Lowlands EBA reveal that Vu Quang Nature Reserve does not fall within the critical sub-set of sites necessary to conserve maximum avifaunal diversity, and should not, therefore, be considered to be a regional bird conservation priority (Eames *et al.* in prep.).

In addition to the mammal discoveries, five previously undescribed fish species have been discovered at Vu Quang Nature Reserve since 1992: *Parazacco vuquangensis*, *Crosscheilus vuha*, *Pararhoedus philanthropus*, *P. equalitus* and *Oreoglanis libertus*. Finally, two species of amphibian and 15 species of reptile recorded at Vu Quang are listed in the *Red Data Book of Vietnam* (Eve 2000).

Conservation issues

According to the draft management plan prepared by Eve (2000), a variety of human activities threaten the biodiversity of Vu Quang Nature Reserve. Clearance of forest for agriculture and the development of human settlements is destroying natural habitats and fragmenting forest cover at the nature reserve. Concomitant with human encroachment is the increase of a number of other prime threats such as hunting, grazing of livestock and logging.

Hunting, often to supply the illegal wildlife trade, is the greatest direct threat to the fauna of the nature reserve. Hunting levels at Vu Quang are intensive and nearly every species of mammal and bird is potential prey for hunters. Illegal timber extraction takes place throughout the nature reserve and logging trails can be found everywhere. The nature reserve meets the fuelwood requirements of about 6,000 households in eight neighbouring communes. The quantity of firewood removed from the nature reserve each year is equivalent to the clear-felling of about 428 ha of forest. Cattle can be found throughout the nature reserve at all times of year, and are left to graze freely at all times. Bamboo and rattan are exploited from forest areas close to human habitation. Finally, the extraction of fragrant oil from *Cinnamomum parthenoxylon* and other tree species is an extremely destructive process (Eve 2000).

A further threat is the planned development of National Highway 2, the proposed route of which cuts through Vu Quang Nature Reserve. If this road development were to go ahead, it would have an irreversible impact on the nature reserve. Besides fragmenting habitat and facilitating access to the forest, road construction may lead to human settlement close to the core areas of the nature reserve (Eve 2000).

At the landscape level, Vu Quang Nature Reserve is an important link in the Annamite Mountains, between Pu Mat Nature Reserve to the north and Phong Nha Nature Reserve to the south. Vu Quang, together with Nakai-Nam Theun National Biodiversity Conservation Area in Laos, protects the central section of what is perhaps the largest remaining block of contiguous natural habitat in northern Indochina.

Other documented values

Vu Quang has historical value because the revolutionary Phan Dinh Phung, who led a resistance movement against the French colonial regime, established a base there between 1885 and his death in 1896 (Eve 2000).

According to the draft management plan prepared by Eve (2000), the nature reserve has three main non-biodiversity values for local communities: watershed protection, non-timber forest products (particularly medicinal plants) and fishing.

Related projects

Between June 1995 and June 2000, the WWF *Indochina Programme-Vu Quang Conservation Project* was implemented with funding from the Royal Netherlands Embassy. Project activities during the first three years included guard-station construction, road upgrading and other infrastructure development, and socio-economic and biological research. Project activities during the final two years included field surveys and community development activities, including irrigation, infrastructure development, planting of fruit trees, apiculture, community forestry and community farming. By the end of the project, over 2,000 households had been involved in project activities (Eve 2000).

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