

Pu Huong Nature Reserve

Alternative site name(s)

Bu Huong, Phu Huong

Province(s)

Nghe An

Area

50,075 ha

Coordinates

19°15' - 19°29'N, 104°43' - 105°00'E

Agro-ecological zone

North Central Coast

Decreed by government

Yes

Management board established

Yes

Investment plan prepared

Yes

VCF eligibility criteria met

A, B, C

Social screening criteria met

None

Conservation needs assessment prepared

No

Operational management plan prepared

No

Tracking tool completed

No

Map available

Yes

Management history

Pu Huong was included on Decision 194/CT of the Chairman of the Council of Ministers, dated 9 August 1986 (MARD 1997), which proposed establishing a 5,000 ha nature reserve for the conservation of "forest containing the conifer *Fokienia hodginsii*" (Cao Van Sung 1995). On 23 October 1997, an investment plan for a 50,075 ha nature reserve at the site was approved by Decision No. 4296/QD-UB of Nghe An Provincial People's Committee (Pu Huong Nature Reserve Management Board *in litt.* 2003).

A management board was established for Pu Huong Nature Reserve on 25 January 2002, following Decision No. 342/QD-UB of the provincial people's committee. In July 2002, a revised investment plan, covering the period from 2002 to 2006, was approved by Decision No. 2452/QD-UB of the provincial people's committee. According to the revised investment plan, the area of the nature reserve is 49,806 ha, while the area of the buffer zone is 110,880 ha (Pu Huong Nature Reserve Management Board *in litt.* 2003).

The nature reserve management board currently has 20 members of staff, based at three guard stations. The management board is under the management of Nghe An Provincial FPD (Pu Huong Nature Reserve Management Board *in litt.* 2003).

Pu Huong Nature Reserve is included on a list of Special-use Forests to be established by the year 2010, prepared by the FPD of MARD, with an area of 50,075 ha (FPD 2003); this list has not yet been approved by the government.

Topography and hydrology

Pu Huong Nature Reserve is located in Que Phong, Quy Chau, Quy Hop, Tuong Duong and Con Cuong districts in central Nghe An province. The nature reserve lies about 30 km to the north of the northern Annamite mountains, from which it is separated by the valley of the Ca river.

The topography of Pu Huong Nature Reserve is steep and mountainous, and ranges in altitude from around 200 to 1,447 m. The topography of the nature reserve is dominated by a ridge of mountains, which runs from north-west to south-east, forming the border between Que Phong, Quy Chau and Quy Hop districts to the north-east and Tuong Duong and Con Cuong districts to the south-west. The highest point in the nature reserve, Mount Phu Lon (1,447 m), is found at the north-western end of this ridge.

This ridge of mountains also forms the boundary between the catchments of the Con (also called Hieu) river to the north and the Ca river to the south. These rivers eventually meet in southern Nghe An province, and form the main Vietnamese component of the

greater Ca river basin, which also covers three provinces in Laos. Vietnam's fourth largest river basin by area, the Ca river drains into the sea near Vinh city.

Biodiversity values

Pu Huong Nature Reserve supports 36,458 ha of forest, equivalent to 73% of the total area (Pu Huong Nature Reserve Management Board *in litt.* 2003). The nature reserve supports two main forest types, both of which have a small deciduous element: lowland evergreen forest and lower montane evergreen forest (Kemp and Dilger 1996). Lowland evergreen forest is distributed from 400 to 900 m. The forest edge is heavily disturbed and dominated by the dipterocarps *Hopea mollissima* and *Vatica fleuryana*, while areas that were previously subjected to commercial timber extraction have now regenerated into mature forest. Lower montane evergreen forest is distributed at elevations above 900 m. In this forest type, disturbance is restricted to more accessible areas at lower elevations. With increasing altitude, tree species composition is increasingly dominated by members of the Juglandaceae, Fagaceae and Lauraceae. This forest type is also characterised by the presence of the conifers *Fokienia hodginsii* and *Cunninghamia* sp. (Kemp and Dilger 1996, Pu Huong Nature Reserve Management Board *in litt.* 2003).

To date, 665 species of vascular plants have been recorded at Pu Huong Nature Reserve, 43 of which are listed in the *Red Data Book of Vietnam*. In addition, 291 species of animal have been recorded at the nature reserve date, including 45 species listed in the *Red Data Book of Vietnam* (Pu Huong Nature Reserve Management Board *in litt.* 2003).

Kemp and Dilger (1996) recorded 148 bird species at Pu Huong, of which 10 are listed in the *Red Data Book of Vietnam*. Eighty four percent of the species recorded at Pu Huong have also been recorded at Pu Mat National Park, indicating a high degree of similarity between the avifaunas of the two areas (Round 1999).

Kemp and Dilger (1996) recorded a number of globally threatened large mammal species at Pu Huong, including Gaur *Bos gaurus* and Asian Elephant *Elephas maximus*. However, given the high hunting pressure in the area, and the fact that Pu Huong is isolated from other areas of natural habitat, any

populations of these species that do remain are likely to be small, fragmented and of doubtful viability. Of potentially more significance are the records of White-cheeked Crested Gibbon *Hylobates leucogenys* (Kemp and Dilger 1996). Providing that hunting of this species can be controlled, Pu Huong Nature Reserve contains sufficient suitable habitat to support a viable population of this species. Also of high significance are records of Saola *Pseudoryx nghetinhensis*, which was recorded in 1995 on the basis of interviews and identification of specimens (Kemp *et al.* 1997). There have, however, been no subsequent surveys for the species at the site, and its current status is unknown.

Conservation issues

While only 515 people live inside the nature reserve, a total of 50,320 people inhabit the buffer zone. These people mainly belong to the Thai, Kho Mu and Hmong ethnic groups (Pu Huong Nature Reserve Management Board *in litt.* 2003).

Like many other protected areas in Vietnam, much of the forest at Pu Huong Nature Reserve has been cleared or degraded by human activities. In the case of Pu Huong, this has been a result of selective timber extraction by local communities and clearance for agriculture. Commercial logging, which took place from the 1960s, also contributed to forest disturbance and loss, but this activity has since been halted. Timber extraction is now predominantly for household use, mostly construction (Kemp and Dilger 1996).

Hunting represents a major threat to biodiversity at Pu Huong, particularly to any populations of large mammal species that remain. Kemp and Dilger (1996) report that species of conservation concern, such as Saola and White-cheeked Crested Gibbon, are regularly hunted.

Research on the wildlife trade at Pu Mat National Park suggests that regular road blocks and random stop checks on the main road east from Pu Huong (provincial road 548) has encouraged wildlife smugglers to begin taking animals out to the south, along National Highway 7 (K. Blazeby verbally 2000). While it is not possible to conclusively determine the origin of wildlife confiscated along this road, it is likely that some of the wildlife being traded is being sourced from Pu Huong Nature Reserve to meet the demand of national and international markets (Blazeby

et al. 1999). Certainly, Kemp and Dilger (1996) reported the trapping of several reptile species, and that the area is "noted by locals for its abundance [of these animals]". They also reported the collection of Hill Myna *Gracula religiosa* chicks for the caged bird trade.

The management board of Pu Huong Nature Reserve is implementing forest protection activities at the site. However, the capacity of the management board is too limited to effectively address the above threats to biodiversity. In particular, while timber extraction has reduced somewhat since the establishment of the management board, hunting continues at high levels, and represents the biggest threat to biodiversity at the nature reserve (Pu Huong Nature Reserve Management Board *in litt.* 2003).

Other documented values

Pu Huong Nature Reserve has an important role in protecting the catchments of the Ca and Con rivers. The catchment protection function of the forest at Pu Huong may have particular importance for local communities with regard to reducing seasonality of stream flow, because the Pu Huong area receives considerably less precipitation than nearby areas. For instance, the Pu Huong area receives 800 to 1,000 mm of rainfall per year, while the Pu Mat area, 30 km to the south, receives 1,268 to 1,791 mm (Kemp *et al.* 1997).

Related projects

Danida are currently supporting the *Forest Protection and Watershed management in Nghe An Province Project* at Pu Huong Nature Reserve. This project, which has a total budget of US\$2 million, is being implemented between 2002 and 2005. The objectives of the project include to enhance the capacity of government staff in participatory land-use planning and management planning for the nature reserve; and to promote sustainable natural resources management through community involvement in two pilot communes.

During 2003, the Netherlands Local Environment Fund, administered by SNV, provided a small grant to the management board of Pu Huong Nature Reserve for capacity building activities.

Conservation needs assessment

A conservation needs assessment has not been conducted for the site, although SNV plan to conduct one in the first half of 2004.

Operational management plan

An operational management plan has not been prepared for the site, although SNV plan to prepare one in the first half of 2004.

Eligibility against VCF criteria

The site is eligible for VCF support because it meets criteria A, B and C.

Criterion	Eligibility
A _I	NA2 - Upper Chu River Watershed
A _{II}	
B _I	Decision No. 194/CT, dated 09/08/86
B _{II}	Nature Reserve
B _{III}	Under provincial management
C _I	Management board established
C _{II}	

Social screening requirements

A social screening report has not been prepared for the site.

Criterion	Eligibility
A	
B	
C	
D	

Literature sources

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