

Phong Dien Proposed Nature Reserve

Alternative site name(s)

None

Province(s)

Thua Thien Hue

Area

41,548 ha

Coordinates

16°18' - 16°35'N, 107°03' - 107°21'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

Yes - 2003

Operational management plan prepared

Yes - 2003

Tracking tool completed

Yes - 2003 (score: 38)

Map available

Yes

Management history

Prior to 1993, the forest at Phong Dien proposed nature reserve was classified as production forest and, as such, was managed by forest enterprises administered by the provincial department of forestry. In 1992, after the value of preserving the area as a water catchment had been recognised, a proposal was submitted to the government for changing the status of the site to watershed protection forest (WPF).

In June and July 1998, following the rediscovery of the globally endangered endemic bird species, Edwards's Pheasant *Lophura edwardsi*, at the site, BirdLife International Vietnam Programme and the Forest Inventory and Planning Institute (FIPI) conducted a field survey to assess the feasibility of upgrading Phong Dien WPF and the adjacent Dakrong WPF to Special-use Forest status. The feasibility study proposed that Phong Dien should be designated as a 34,406 ha nature reserve (Le Trong Trai *et al.* 1999).

In 2000, BirdLife and FIPI prepared an investment plan for a 41,548 ha nature reserve, comprising Phong Dien WPF and contiguous parts of A Luoi district. This investment plan was approved at the provincial level in September 2001 and by MARD in October 2001. Subsequently, a nature reserve management board was established on 29 August 2003, following Decision No. 2470/QD-UB of Thua Thien Hue Provincial People's Committee. The staff for the

management board have not yet been recruited but this is expected to happen in 2004 (Le Trong Trai verbally 2003). The management board will report to Thua Thien Hue Provincial FPD, who, in turn, are under the management of the provincial people's committee.

Phong Dien is included on a list of Special-use Forests to be established by the year 2010, prepared by the FPD of MARD, as a 41,548 ha nature reserve (FPD 2003); this list has not yet been approved by the government.

Topography and hydrology

The topography of Phong Dien proposed nature reserve is dominated by a ridge of low mountains, which extends south-east from the Annamite mountains, and forms the border between Quang Tri and Thua Thien Hue provinces. The highest points within the proposed nature reserve are Coc Ton Bhai (1,408m), Ca Cut (1,405m), Ko Va La Dut (1,409m), Coc Muen (1,298m) and Co Pung (1,615m). The proposed nature reserve is drained by three main river systems: the My Chanh, O Lau and Bo.

Biodiversity values

Phong Dien proposed nature reserve, together with the contiguous Dakrong proposed nature reserve, supports one of the largest remaining area of lowland evergreen forest in the Annamese Lowlands Endemic

Bird Area (EBA) (Le Trong Trai *et al.* 1999). Lowland areas are the most extensively deforested areas of Vietnam (Wege *et al.* 1999), and lowland evergreen forest is perhaps the most threatened forest type in the country.

Phong Dien proposed nature reserve supports six of the nine restricted-range bird species that occur in the Annamese Lowlands EBA: Edwards's Pheasant, Annam Partridge *Arborophila merlini*, Crested Argus *Rheinardia ocellata*, White-cheeked Laughingthrush *Garrulax vassali*, Short-tailed Scimitar Babbler *Jabouilleia danjoui* and Grey-faced Tit Babbler *Macronous kelleyi* (Stattersfield *et al.* 1998, Le Trong Trai *et al.* 1999). Of these species, perhaps the species of greatest conservation importance is Edwards's Pheasant. Until its rediscovery in 1996, the species was believed to be extinct in the wild. Edwards's Pheasant has a very restricted range in central Vietnam, and is only known to occur at a handful of sites. Rather little information is available about the population of Edwards's Pheasant at Phong Dien, although reports from hunters suggest that the species is still relatively common at the proposed nature reserve. Detailed information is also lacking on the status of other key species recorded at the site, such as Annam Partridge and Short-tailed Scimitar Babbler, although the 1998 BirdLife/FIPI survey confirmed that Crested Argus is still common. For the above reasons, Phong Dien qualifies as an Important Bird Area (Tordoff 2002).

The mammal fauna of Phong Dien includes a large number of species of global conservation concern, most notably the globally endangered Saola *Pseudoryx nghetinhensis*, a recently described large-mammal species endemic to the Annamite mountains. Other mammal species endemic or near-endemic to the Annamite mountains recorded at Phong Dien include Large-antlered Muntjac *Muntiacus vuquangensis* and Red-shanked Douc *Pygathrix nemaeus*. Recent survey results suggest, however, that the populations of some mammal species at Phong Dien are small and scattered, presumably due to the effects of hunting and disturbance (Le Trong Trai *et al.* 1999).

Conservation issues

Historically, the forest at Phong Dien has been threatened by a number of factors. The impact of war

has been dramatic, and, while the indirect legacy of war continues to exert an influence on habitats and wildlife, new threats are now more significant. Hunting levels are probably lower now than in the post-war years, due to lower animal abundance and lower availability of weapons. However, it is possible that hunting patterns have now changed in response to lower animal numbers, with the use of snares now more common than in previous years. Forest fires continue to exert an important and widespread influence on forest cover but clearance of forest for swidden agriculture is now less common (R. Hughes *in litt.* 2000).

Different threats have distinctly different impacts on habitats and wildlife. For example, it seems likely that the most direct threat to wildlife at Phong Dien is hunting, as it has a disproportional impact on species of highest conservation concern, notably pheasants and large mammals. Many of the mammal species known to occur at Phong Dien are globally threatened, and these are typically the species most susceptible to hunting, for example Tiger *Panthera tigris* and Asian Black Bear *Ursus thibetanus*. In the case of these species, targeted hunting by organised groups of professional hunters from outside of the area may be the most severe threat (Tran Quang Ngoc *et al.* 2002). Hunting may also be a significant threat to populations of globally threatened pheasants at Phong Dien, although this threat may be mitigated, to some degree, by the large area of suitable habitat available for these species at the site. During a recent study of the impacts of hunting on Edwards's Pheasant and other galliforms at Phong Dien, a strong association was identified between hunting of galliforms and rattan collection, because rattan collectors set snares while living in the forest for extended periods (Tran Quang Ngoc *et al.* 2002).

Alongside hunting, collection of timber and non-timber forest products (NTFPs) is another substantive threat to the remaining forest. Further research is required, however, to understand better whether these practices are taking place at sustainable or unsustainable levels, and to explore ways of addressing these issues effectively (R. Hughes *in litt.* 2000).

Another major threat to biodiversity at Phong Dien is illegal gold mining, which has recently begun taking place on a small scale along rivers and streams within

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the proposed nature reserve. As well as the direct impacts of chemical pollutants on aquatic ecosystems, the presence of gold miners within the forest increases hunting pressure on globally threatened species.

Other documented values

The forest at Phong Dien proposed nature reserve is likely to play an important role in protecting downstream water supplies and reducing flooding in the lowlands of Thua Thien Hue province. This environmental service can be expected to have important economic values: downstream villages, agricultural systems, industry and infrastructure are vulnerable to flooding, and rivers originating within the provincial nature reserve supply downstream irrigation schemes, a water bottling factory and the fisheries of the Tam Giang-Cau Hai lagoon system. Poor management of forest at Phong Dien is, therefore, likely to have negative impacts on downstream communities and the provincial economy.

Unfortunately, the low density of large mammals, combined with a lack of prominent landscape features, limits the potential of Phong Dien proposed nature reserve for ecotourism. The nearest centre of tourism is Hue city, and some residual tourism could be expected to reach the proposed nature reserve from there (Le Trong Trai *et al.* 1999). With a creative approach to marketing, however, it may be possible to develop niche tourism at Phong Dien, especially if combined with visits to other sites in the area, for example, Bach Ma National Park and the A Luoi valley, as well as sites of historical and cultural interest in Hue city itself.

Related projects

An integrated rural development project entitled the *Thua Thien Hue Rural Development Project* is currently being implemented in two districts of Thua Thien Hue province, one of which is Phong Dien. The project is funded by the government of Finland through FINIDA. The project has identified critical and very critical sub-catchments, in order to improve the watershed protection services that the forest at Phong Dien provides to downstream water users. A similar project, also funded through FINIDA, operates in Quang Tri province, and offers the opportunity of

providing support for contiguous forest areas within Dakrong proposed nature reserve.

The *A Luoi Area Development Project* is currently being implemented in A Luoi district, with support from World Vision International. This project is focussing on integrated development activities in agriculture, health, education and capacity-building.

During 2000 and 2001, Thua Thien Hue Provincial FPD, with the support of the WWF Vietnam Programme, implemented a series of activities aimed at conserving the biodiversity of the proposed nature reserve. These activities included raising awareness among local communities of the threat posed by hunting to wildlife, particularly Tiger and globally threatened pheasants; working with local communities to remove snares and traps; and strengthening the capacity of local FPD staff in biodiversity conservation and management.

During 2001 and 2002, the Whitley Award Foundation for International Nature Conservation supported a study on the impacts of hunting at Phong Dien proposed nature reserve. This study formulated a management strategy to control hunting, particularly hunting methods that impact on Edwards's Pheasant (Tran Quang Ngoc *et al.* 2002).

Thua Thien Hue Provincial FPD are currently implementing a three-year, MacArthur Foundation-funded project entitled *Community Co-management of Phong Dien Nature Reserve*. One of the main objectives of this project is to establish a nature reserve management system for Phong Dien.

The national 661 Programme is currently supporting social forestry activities with households in the buffer zone of the proposed nature reserve, while the national 133 and 135 Programmes are supporting rural development activities in the buffer zone.

Conservation needs assessment

A conservation needs assessment was conducted for the site in November 2003 by WWF, in collaboration with Thua Thien Hue Provincial FPD. Based on an assessment of the biodiversity values of the site, and the direct and indirect threats to them, 20 high priority activities for VCF support were identified:

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- collaborative development of management, enforcement and legal regulations for the nature reserve;
- development of specific regulations on operational management for the nature reserve;
- collaborative development of land-use, management, enforcement and legal regulations for the buffer zone;
- training needs assessment for nature reserve staff, local authorities and local communities;
- training for tasks and target groups, based on the results of the training needs assessment;
- preparation of detailed patrolling plans for forest guards and local patrol groups;
- establishment of forest protection teams in all buffer zone villages;
- strengthened law enforcement;
- increased effectiveness of implementation of nature reserve regulations;
- explanation of monitoring systems and logistical arrangements to nature reserve staff and forest protection teams;
- conservation education for all stakeholders;
- development of a communications network, materials and strategy;
- consensus on nature reserve boundary and management zoning;
- participatory 3D nature reserve modelling with all stakeholders;
- development of materials and information resources;
- establishment of baseline information and data on all aspects of the nature reserve;
- biological, socio-economic, land-use, economic valuation and ecosystem services surveys;
- forest inventory and forest cover monitoring;
- information management, analysis and application;
- development of a detailed monitoring plan for the nature reserve.

Operational management plan

An operational management plan was prepared for the site in November 2003 by WWF, in collaboration with Thua Thien Hue Provincial FPD. Milestones for

operational management plan implementation were formulated in seven result areas:

1. effective management;
2. legal framework;
3. training and capacity building;
4. enforcement and operations;
5. communications, awareness-raising and advocacy;
6. research and monitoring;
7. buffer zone development.

Eligibility against VCF criteria

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

Criterion	Eligibility
A _I	CA1 - Central Annamites
A _{II}	VN021 Phong Dien
B _I	Proposed Special-use Forest
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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