

# Vo Doi Nature Reserve

## Alternative site name(s)

Lower U Minh, U Minh, U Minh Ha

## Province(s)

Ca Mau

## Status

Decreed

## Management board established

Yes

## Latitude

9°12' - 9°14'N

## Longitude

104°55' - 105°00'E

## Bio-unit

05a – Mekong Delta



## Conservation status

Vo Doi 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 2,000 ha nature reserve (MARD 1997). The name of the nature reserve given in the original decree was U Minh. An investment plan for the nature reserve was prepared by Ho Chi Minh City Sub-FIPI in 1990, in which the name was given as Vo Doi (Anon. 1990). This investment plan was approved by the former Ministry of Forestry on 18 September 1992, following Decision No. 411. Subsequently, the investment plan was approved by Government Decision No. 83/CP. Following the approval of the investment plan, a nature reserve management board was established by the then Minh Hai Provincial People's Committee. Vo Doi Nature Reserve is under the management of Ca Mau Provincial FPD (Ca Mau Provincial FPD 2000).

The precise area of Vo Doi Nature Reserve is not clear. The area given in the investment plan is 3,394 ha (Anon. 1990). According to Buckton *et al.* (1999), however, the nature reserve covers 3,724 ha. Finally, according to Ca Mau Provincial FPD (2000), the area of the nature reserve is 3,689 ha, comprising a strict protection area of 2,531 ha, a forest rehabilitation area of 294 ha and an administration and services area of

864 ha. Vo Doi is included on the 2010 list as a 3,394 ha nature reserve (FPD 1998).

## Topography and hydrology

Vo Doi Nature Reserve is located in the plain of the Mekong Delta, and the maximum elevation at the site is only 2.5 m. Vo Doi is situated in U Minh Ha or lower U Minh, the southern of the two extensive peat swamp areas in Kien Giang and Ca Mau provinces. The other peat swamp area, U Minh Thuong or upper U Minh, is situated 30 km to the north. The nature reserve is seasonally inundated and, therefore, supports a mixture of *Melaleuca* forest, seasonally inundated grassland and open swamp.

## Biodiversity value

The three major vegetation types at Vo Doi Nature Reserve are 'semi-natural' (originally planted but no longer tended) *Melaleuca* forest, *Melaleuca* plantation and seasonally inundated grassland. Semi-natural *Melaleuca* forest covers a large area in the west of the site. The tree flora is dominated by *Melaleuca cajuputi*, although other tree species are also present, including *Ilex cymosa* and *Alstonia spathulata*. *Melaleuca* plantations of varying ages are distributed in the east of the nature reserve. In the centre of the nature reserve, there are areas of grassland with scattered, young,

naturally regenerating *Melaleuca* trees. The most widespread grassland community is one dominated by *Eleocharis dulcis*, with *Cyperus halpan*, *C. polystachyos*, *Fuirena umbellata*, *Philydrum lanuginosum* and *Phragmites vallatoria* also present. On slightly higher ground, a grassland community dominated by *P. vallatoria* is found (Buckton *et al.* 1999).

Vo Doi Nature Reserve and the surrounding area support high bird species richness. In particular, the area supports a high abundance and species richness of waterbirds, including small bitterns (*Ixobrychus* and *Dupetor*), Bronze-winged Jacana *Metopidius indicus* and Purple Swampphen *Porphyrio porphyrio*. There are recent records of adjutants, probably Lesser Adjutant *Leptoptilos javanicus*, from Vo Doi. This species was believed to breed at the nature reserve in the past but appears to no longer do so. However, the species may still occur outside of the nature reserve to the north. In addition, Woolly-necked Stork *Ciconia episcopus* has been reported to occur in the area to the north of the nature reserve, where it might breed. The reasons for the apparent absence of the larger waterbirds from the nature reserve itself are not clear but may include disturbance and habitat deterioration in the past, partly due to forest fires (Buckton *et al.* 1999).

### Conservation issues

Vo Doi is relatively well protected, and local people are aware of its status as a nature reserve (Buckton *et al.* 1999). The nature reserve has a staff of 22, stationed at the headquarters and five guard stations (Ca Mau Provincial FPD 2000).

According to nature reserve staff, the main threat appears to be accidental forest fire. In 1995, for instance, a fire destroyed some 200 ha of *Melaleuca* forest. A series of watchtowers are used for advanced warning of fires. Honey is harvested throughout the area, and the use of smoke in collecting honey from beehives may be a contributory factor to forest fires. Therefore, honey harvesting might be managed more carefully. For example, use of smoke should be prohibited during the dry season. Nature reserve staff also report patches of *Melaleuca* die-off, although the reasons for this are not clear (Buckton *et al.* 1999).

Vo Doi Nature Reserve is bounded to the north by two state forest enterprises, U Minh III and Tran Van Thoi. Together, these three areas cover 10,991 ha of the U Minh Ha peat swamp area. The provincial authorities have proposed extending Vo Doi Nature Reserve to include U Minh III and Tran Van Thoi Forest Enterprises, which are no longer commercially exploited. Such an extension would enhance the site considerably, as it would include extensive areas of mature *Melaleuca* plantation, seasonally inundated grassland and swamp within the nature reserve (Buckton *et al.* 1999). Such an extension is supported by Buckton *et al.* (1999).

Buckton *et al.* (1999) recommend that Vo Doi Nature Reserve, together with the proposed extension to the north, should be designated as a wetland of international importance under the Ramsar Convention.

### Other documented values

Honey-harvesting is a potentially sustainable economic activity in *Melaleuca* forest. However, it needs to be conducted in a controlled manner in order to avoid potential negative impacts and maintain the biodiversity value of the area.

Vo Doi Nature Reserve is drained by a network of canals. During a survey in 1999, pH measurements taken within the site of 6.1 to 6.3 indicated that there was no acidification problem. However, pH measurements of 3.1 from the main canal outside of the site indicated that the potential for acidification exists, and that the nature reserve may have considerable beneficial effects on the water quality of the area (Buckton *et al.* 1999).

Vo Doi Nature Reserve is part of the larger U Minh Ha peat swamp, a rare example of this ecosystem in Vietnam. Although no visitor facilities currently exist, if well managed and protected, it is believed that the area has high potential for nature recreation, conservation education and scientific research.

### Related projects

Prior to 1999, the national 327 Programme was the major source of investment funding for the activities of the nature reserve management board. Since 1999, the

major source of funding has been the national 661 programme.

### Literature sources

ADB (1999) Draft coastal and marine protected areas plan. Hanoi: Asian Development Bank.

Anon. (1990) [Investment plan for Vo Doi Nature Reserve, Tran Van Thoi district, Minh Hai province]. Ho Chi Minh City: Ho Chi Minh City Sub-FIPI. In Vietnamese.

Buckton, S. T., Nguyen Cu, Ha Quy Quynh and Nguyen Duc Tu (1999) [The conservation of key wetland sites in the Mekong Delta](#). Hanoi: BirdLife International Vietnam Programme.

Buckton, S. T., Nguyen Cu, Ha Quy Quynh and Nguyen Duc Tu (2000) [[The conservation of key wetland sites in the Mekong Delta](#)]. Hanoi: BirdLife International Vietnam Programme. In Vietnamese.

Ca Mau Provincial FPD (2000) [FPD questionnaire]. Ca Mau: Ca Mau Provincial Forest Protection Department. In Vietnamese.

Hoang Van Thang and Truong Quang Tam (1998) Fauna and flora of Vo Doi and surrounding areas, Ca Mau province, 1998: biodiversity conservation. Unpublished report to WWF Indochina Programme and SIERES.

Safford, R. J., Tran Triet, Maltby, E. and Duong Van Ni (1998) Status, biodiversity and management of the U Minh wetlands, Vietnam. *Tropical Biodiversity* 5(3): 217-244.

Scott, D. A. (1989) A directory of Asian wetlands. Gland: IUCN.

Tran Truong Luu (1998) Vo Doi study area, Ca Mau province. Unpublished report to Research Institute for Aquaculture II.