

# U Minh Thuong National Park

## Alternative site name(s)

Upper U Minh

## Province(s)

Kien Giang

## Area

8,053 ha

## Coordinates

9°31' - 9°40'N, 105°04' - 105°08'E

## Agro-ecological zone

Mekong Delta

## 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

The establishment of a nature reserve at U Minh Thuong was decreed by the government of Vietnam in 1993 (Buckton *et al.* 1999). In the same year, a nature reserve investment plan was approved by the former Ministry of Forestry (FPD 1998). In the following year, U Minh Thuong Nature Reserve and Historical Site Management Committee was established to oversee the administration of the site and manage government funding through the national 327 Programme (N. Sage and M. Greve *in litt.* 2000).

On 14 January 2002, the management category of U Minh Thuong was revised from nature reserve to national park, following Decision No. 11/TTg of the Prime Minister. According to the Prime Minister's decision, the total area of the national park is 8,053 ha, comprising a strict protection area of 7,838 ha, a forest rehabilitation area of 200 ha and an administration and services area of 15 ha. In addition, there is a buffer zone of 13,069 ha, outside of the national park. According to the Prime Minister's Decision, the national park is under the management of Kien Giang Provincial People's Committee.

Following the revision of the management category, the U Minh Thuong Nature Reserve and Historical Site Management Committee was restructured as a national park management board, following Decision No. 49/QD-UB, dated 8 July 2002.

The management board currently has 59 members of staff, based at eight guard stations. A revised investment plan for the national park was prepared in 2003 (Thai Thanh Luom, Director of U Minh Thuong National Park *in litt.* 2003).

U Minh Thuong is included on a list of Special-use Forests to be established by the year 2010, prepared by the FPD of MARD, as an 8,053 ha national park (FPD 2003); this list has not yet been approved by the government.

## Topography and hydrology

U Minh Thuong National Park is located in An Minh Bac commune of An Minh district, and Minh Thuan commune of Vinh Thuan district, Kien Giang province, 365 km south-west of Ho Chi Minh City. U Minh Thuong National Park is located in the plain of the Mekong Delta, and the site reaches only a few metres in elevation. U Minh Thuong or upper U Minh, is the northern of two extensive peat swamp areas in Kien Giang and Ca Mau provinces. The other peat swamp area, U Minh Ha or lower U Minh, is situated 30 km to the south (see Vo Doi site card).

U Minh Thuong National Park is situated in an area of freshwater wetlands, comprising peat swamp forest, seasonally inundated grassland and open swamp. Acid sulphate soils, which oxidise on exposure to air to produce sulphuric acid, cover a large area of U Minh Thuong. Despite the acid sulphate soils, the water in

the core zone is almost neutral (pH 6-7) due to the high forest cover. In the buffer zone, however, which has been extensively cleared of forest, the water can be extremely acidic (pH 3-4).

The soil layer is covered by a layer of peat, 1 to 3 m thick. In areas that have recently been burnt, the peat layer has been lost, and the land surface has been lowered, often forming open swamp. In areas which have been cleared for agriculture, the peat layer has been oxidised and reduced in thickness (Safford *et al.* 1998). The core zone of U Minh Thuong National Park is surrounded by a perimeter canal and dyke system, with a series of gates, which are used to manage the water level. Water is released during the rainy season but, at other times of the year, water is retained. This reduces oxidation and thinning of the peat layer, and reduces the risk of fire.

## Biodiversity values

U Minh Thuong National Park supports one of the last significant areas of peat swamp forest remaining in Vietnam, and is recognised as one of the three highest priority sites for wetland conservation in the Mekong Delta (Buckton *et al.* 1999). Tran Triet (2000) has classified the vegetation of the core zone into four types: forest dominated by *Melaleuca cajuputi* on both peat and mineral soils; seasonally inundated grasslands dominated by *Phragmites vallatoria* and *Eleocharis dulcis*; open swamps dominated by *Nymphaea nouchali*, *Pistia stratiotes*, *Salvinia cucullata* and *Typha domingensis*; and natural streams and canals. The vegetation of the buffer zone consists of seasonally inundated grassland, open swamps, *Melaleuca* plantations, agricultural land, fishponds and canals.

U Minh Thuong harbours a diversity of flora, including many rare and endemic species. Tran Triet (2000) has recorded 226 species of non-cultivated vascular plants. Among these is the duckweed, *Lemna tenera*, which is rare throughout its range in South-East Asia but common at U Minh Thuong.

The forest and wetlands at U Minh Thuong support many rare and endangered animal species. With the exception of birds, the fauna of U Minh Thuong National Park received limited attention prior to a comprehensive zoological survey between October and December 2000 (N. Sage and M. Greve *in litt.* 2000).

During this survey, particular attention was given to assessing the status of Siamese Crocodile *Crocodylus siamensis* and Estuarine Crocodile *C. porosus* at the national park. However, the results of the survey indicated that neither species have occurred at the national park for perhaps as long as 30 years (Stuart *et al.* (2002).

A preliminary survey conducted in March 2000 obtained evidence of the continued occurrence of the globally data deficient Hairy-nosed Otter *Lutra sumatrana* at U Minh Thuong (Nguyen Xuan Dang *et al.* 2000). The survey team also found evidence of Oriental Small-clawed Otter *Aonyx cinerea*, Sunda Pangolin *Manis javanicus* and Large-spotted Civet *Viverra megaspila* at U Minh Thuong (Nguyen Xuan Dang *et al.* 2000).

The conservation importance of U Minh Thuong National Park is further highlighted by the high bird diversity. During a survey of wetland sites in the Mekong Delta by BirdLife International and the Institute of Ecology and Biological Resources (IEBR), U Minh Thuong had the highest bird species richness of any of the sites visited (Buckton *et al.* 1999). To date, 187 bird species have been recorded at U Minh Thuong, including nine globally threatened or near-threatened species: Oriental Darter *Anhinga melanogaster*, Spot-billed Pelican *Pelecanus philippensis*, Painted Stork *Mycteria leucocephala*, Lesser Adjutant *Leptoptilos javanicus*, Black-headed Ibis *Threskiornis melanocephalus*, Glossy Ibis *Plegadis falcinellus*, Greater Spotted Eagle *Aquila clanga*, Grey-headed Fish Eagle *Ichthyophaga ichthyaeus* and Asian Golden Weaver *Ploceus hypoxanthus* (Safford *et al.* 1998, Buckton *et al.* 1999, Nguyen Phuc Bao Hoa 2000). U Minh Thuong also supports globally significant congregations of a number of commoner waterbird species, including Purple Swampphen *Porphyrio porphyrio*, Little Cormorant *Phalacrocorax niger*, Purple Heron *Ardea purpurea*, Glossy Ibis *Plegadis falcinellus*. For these reasons, U Minh Thuong qualifies as an Important Bird Area (Tordoff 2002).

## Conservation issues

The main threats to biodiversity at U Minh Thuong National Park can be grouped into four categories:

forest fire; peat dry-out; hunting; and tourism development.

In 2002, a series of devastating fires destroyed much of the *Melaleuca* forest within the national park (Vietnam News 2002b,h). While fire is a natural part of the ecology of *Melaleuca* forest and accidental fires periodically occur, an inappropriate hydrological management regime at the national park led to low water levels during the dry season and drying out of the peat layer, thereby vastly increasing the severity of fires that took place during 2002. Any future forest fire at U Minh Thuong has the potential to destroy all the remaining natural *Melaleuca* forest. Therefore, Tordoff (2002) recommends that a hydrological management regime that avoids drying out of the peat layer and maintains the hydrological value of the site as a source of freshwater for local agriculture be introduced, and that no new canals be constructed in the national park, as these will cause will further drying out of the peat swamp, increasing the risk of fire at the site, and facilitating access by poachers, who are responsible for many accidental fires. It is also important that habitat rehabilitation efforts at the national park rely on natural regeneration not plantation, in order to mitigate the risk of alien invasive species.

The second main threat to biodiversity at U Minh Thuong is degradation and decomposition of the peat layer and inhibition of the peat formation process, both of which result from a low water table throughout most of the year. The drying of the peat layer enhances the risk of fire in the peat swamp forest. The CARE project undertook a series of hydrological research and monitoring activities to formulate a water resources management plan for the purpose of maintaining moist peat soils all year round. Another management objective is to provide an equitable supply of water to buffer zone communities during the dry season, in compensation for the lack of access to fish and forest products within the core zone (N. Sage and M. Greve *in litt.* 2000).

The third major threat to biodiversity at U Minh Thuong is illegal hunting and trapping of mammals, reptiles and birds. These activities are conducted by both local people and organised groups of outsiders. Poverty is cited as the root cause of these illegal activities, although the well developed trade in wildlife and wildlife products is a contributory factor. In addition to exploitation of wildlife, another illegal

human activity is the conversion of wetlands in the core zone of the national park to agricultural land (N. Sage and M. Greve *in litt.* 2000).

The final major threat to biodiversity is the planned development of tourism infrastructure in the core zone of the national park. Recent infrastructure developments include building a surfaced road into the centre of the core zone and erecting a monument there. These developments were in breach of Special-use Forest management regulations (N. Sage and M. Greve *in litt.* 2000). Tordoff (2002) recommends that all planned infrastructure developments at the national park be carefully assessed for their potential impacts on flora and fauna.

Within the north-west corner of the buffer zone is a 1,190 ha area, which is commonly referred to as the "prison forest" or "bird sanctuary". This area is uninhabited and supports one of the most important and largest bird colonies in the Mekong Delta (Nguyen Phuc Bao Hoa 2000, N. Sage and M. Greve *in litt.* 2000). The area is currently under the management of Kien Giang Provincial Department of Police (N. Sage and M. Greve *in litt.* 2000). Buckton *et al.* (1999) recommend that, although the area is managed effectively at the current time, it should be incorporated within the national park to ensure its long-term integrity.

### Other documented values

The *Melaleuca* forest in the core zone of U Minh Thuong National Park plays an important role in maintaining the soil and water quality in the buffer zone by preventing the acidification of topsoil and surface water, filtering ground water, and storing freshwater during the dry season. In addition, at least eight species of economically valuable fish are found at U Minh Thuong. By providing these services, the U Minh Thuong wetlands make an important contribution to the livelihood security of poor households in the buffer zone (N. Sage and M. Greve *in litt.* 2000).

U Minh Thuong National Park has historical values because the area was used as a base by resistance forces during the First and Second Indochina Wars. Due to the almost complete loss of natural forest in the Mekong Delta region, U Minh Thuong is one of the few places where visitors can see the landscape as it was at the time. In addition, archaeological remains

dating back to the Oc Eo civilisation have been found in the area.

## Related projects

Between 1998 and 2003, CARE International in Vietnam, in partnership with Kien Giang Provincial DARD, implemented the Danida-funded *U Minh Thuong Nature Reserve Conservation and Community Development Project*. The aim of this project was to conserve the existing natural resources and biodiversity of the protected area by strengthening the capacity of the management board, and improving the livelihood security of participating buffer zone communities, thereby reducing their dependency on the natural resources of the site. In addition, the project aimed to increase local capacity in natural resource conservation research and conservation knowledge, thereby providing a basis for the development of sound and sustainable protected area and habitat management practices (N. Sage and M. Greve *in litt.* 2000).

A government-funded project is currently being implemented at U Minh Thuong National Park to rehabilitate and restore the *Melaleuca* forest lost and damaged during the severe fires in 2002, and to improve the livelihoods of buffer zone households.

## Conservation needs assessment

A conservation needs assessment has not been conducted for the site.

## Operational management plan

An operational management plan has not been prepared for the site.

## Eligibility against VCF criteria

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

Criterion	Eligibility
A <sub>I</sub>	LMF1 - U Minh Thuong Swampforests
A <sub>II</sub>	VN004 - U Minh Thuong
B <sub>I</sub>	Decision No. 11/TTg, dated 14/01/02
B <sub>II</sub>	National Park
B <sub>III</sub>	Under provincial management
C <sub>I</sub>	Management board established
C <sub>II</sub>	

## Social screening requirements

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

Criterion	Eligibility
A	
B	
C	
D	

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