

Kien Luong Proposed Nature Reserve

Alternative site name(s)

Ba Hon, Bang grassland, Ha Tien, Hon Chong

Province(s)

Kien Giang

Area

14,605 ha

Coordinates

10°09' - 10°29'N, 104°32' - 104°42'E

Agro-ecological zone

Mekong Delta

Decreed by government

No

Management board established

No

Investment plan prepared

No

VCF eligibility criteria met

A, B

Social screening criteria met

None

Conservation needs assessment prepared

No

Operational management plan prepared

No

Tracking tool completed

No

Map available

Yes

Management history

Kien Luong proposed nature reserve is situated in the Ha Tien plain in Kien Giang province. Plans to establish one or more protected areas in the Ha Tien plain are currently under development, as a result of which, it is currently unclear precisely which, if any, areas of the plain may eventually be designated as Special-use Forests.

In 1999, based on the results of a project to identify key sites for wetland conservation in the Mekong Delta, BirdLife International and the Institute of Ecology and Biological Resources (IEBR) proposed the establishment of two protected areas on the Ha Tien plain: one in Kien Luong district, with an area of 7,624 ha; and one in Ha Tien town, with an area of 6,981 ha (Buckton *et al.* 1999). However, these proposals were not accepted by Kien Giang Provincial People's Committee.

In June 2001, Kien Giang Provincial DARD and the College of Natural Sciences, Ho Chi Minh City National University, hosted a workshop in Kien Giang province to discuss the conservation and utilisation of natural resources in the Ha Tien plain (Tran Triet 2001). At this workshop, the provincial authorities announced a plan to establish a protected area in the Ha Tien plain.

In support of this plan, the College of Natural Sciences, Ho Chi Minh City National University, Can

The University and the International Crane Foundation conducted additional surveys of the Ha Tien plain in 2003, and proposed projects to establish two conservation areas in Kien Luong district: a 1,300 ha portion of the Hon Chong area; and a 2,000 ha portion of the Bang grassland in the Phu My area. The former area is included within the boundaries of the protected area in Kien Luong district proposed by BirdLife and IEBR. Kien Giang Provincial People's Committee approved both project proposals, and issued a call for support for their implementation to international conservation organisations and donors.

The FPD of MARD have prepared a list of Special-use Forests to be established by the year 2010 (FPD 2003). This list includes a proposal to establish a 14,605 ha nature reserve called Kien Luong, comprising the two protected areas proposed by BirdLife and IEBR. This list has not yet been approved by the government.

Topography and hydrology

The Ha Tien plain is a flat coastal plain, and one of the last remaining extensive areas of seasonally inundated grassland in the Mekong Delta. The portion of the plain in Ha Tien town slopes gently towards the Gulf of Thailand, as a result of which floodwater can easily drain away, and the area is only inundated to a depth of 1.5 to 2 m during the flood season. The soils in the area have a high acid-sulphate content, which

means that the land is marginal for agriculture (Buckton *et al.* 1999).

The portion of the plain in Kien Luong district is bisected by a network of canals, and, therefore, has some brackish water characteristics. The soil is predominantly acid-sulphate, which is susceptible to acidification if allowed to dry out, for instance as a result of increased drainage following canal formation. Measurements of pH indicate that the area has already been affected by acidification, with readings as low as pH 3.4 (Buckton *et al.* 1999).

Scattered throughout the Ha Tien plain are a number of limestone karst formations, which rise abruptly from the surrounding plain. Together with a few small formations across the international border, inside Cambodia, these are isolated from other limestone karst areas in Indochina by considerable distances.

Biodiversity values

The portion of the Ha Tien plain in Kien Luong district mainly supports seasonally inundated grassland, although there are also areas of *Melaleuca* plantation. At the fringes of the site, the natural habitat has been converted into agricultural land and shrimp ponds. The remaining grassland is dominated by *Eleocharis dulcis* and *E. ochrostachys*. Patches of other species, such as *E. retroflexa*, *Xyris indica*, *Scleria poaeformis*, *Melastoma affine*, *Scirpus grossus*, *Fimbristylis* sp., *Pseudoraphis brunoniana*, *Cyperus* spp. and *Lepironia articulata* are also found (Buckton *et al.* 1999).

The portion of the Ha Tien plain in Ha Tien town supports a mixture of seasonally inundated grassland, naturally regenerating *Melaleuca* scrub and *Nypa fruticans* swamp. The grassland is dominated by a species-poor *Eleocharis dulcis* community. The *Melaleuca* scrub consists of *Melaleuca* trees, mainly 2 to 6 m in height, with a varied ground flora, which often includes *Eleocharis dulcis*, *Phragmites vallisneria*, *Xyris indica*, *Melastoma affine*, *Flagellaria indica*. *Nypa fruticans* swamp is distributed in the brackish water zone, and associated species include *Acanthus ebracteatus*, *Derris trifolia*, *Clerodendrum inerme*, *Phoenix paludosa*, *Acrostichum aureum*,

Aglaodora griffithii and *Cyperus malaccensis* (Buckton *et al.* 1999).

Besides the significance of the grassland vegetation, the limestone vegetation at the site is also unique and distinctive (Truong Quang Tam *in litt.* 2004).

The Ha Tien plain is one of the most important sites for the conservation of large waterbirds in the Mekong Delta. The Kien Luong portion of the plain contains a significant area of suitable habitat for the eastern subspecies of Sarus Crane *Grus antigone sharpii*. A count of 377 Sarus Cranes was made in the Hon Chong area in 2002, representing a significant proportion of the global non-breeding population of this subspecies, which could number as few as 821 individuals (A. Tordoff own data). The Hon Chong area is particularly important for the conservation of this subspecies, given the precipitous decline in Sarus Crane numbers at Tram Chim National Park (see Tram Chim site card).

Another indication of the conservation importance of the Ha Tien plain comes from sightings of the globally critically endangered White-shouldered Ibis *Pseudibis davisoni*, in 1999 and 2003 (Buckton *et al.* 1999, Nguyen Phuc Bao Hoa verbally 2003). The presence of more than one bird may indicate that a small breeding population persists in the vicinity. This species has drastically declined over its entire global range, and the only recent sightings from elsewhere in Vietnam come from Cat Tien National Park in Dong Nai province (Eames and Tordoff in prep.).

Other large waterbirds recorded in the Ha Tien plain include Painted Stork *Mycteria leucocephala*, Woolly-necked Stork *Ciconia episcopus* and the globally vulnerable Spot-billed Pelican *Pelecanus philippensis* (Buckton *et al.* 1999). In addition, remains of the globally endangered Bengal Florican *Houbaropsis bengalensis* were found in the Ha Tien town portion of the plain in 1997 (Tran Triet *et al.* 2000), and Buckton *et al.* (1999) concluded that it is likely that the species still occurs in the area. Because of its importance for globally threatened bird species, the Ha Tien plain includes two Important Bird Areas: Kien Luong and Ha Tien (Tordoff 2002).

There are indications that the limestone karst formations on the Ha Tien plain are biologically rich and, due to their isolation from other karst areas, high

in endemism. In particular, the limestone karst supports a high diversity of cave invertebrates (Deharveng *et al.* 2001), and recent investigations have unveiled an exceptionally rich deep-soil invertebrate fauna, including at least two genera of beetles endemic to the site (Ferrer in press). Land snails also contribute to the biodiversity values of the limestone karst, as many of them are either local or regional endemics (FFI in prep.).

Furthermore, the limestone karst in the Ha Tien plain supports at least two isolated populations of a leaf monkey species, provisionally identified as Silvered Leaf Monkey *Trachypithecus germaini* (Tran Triet 2001, Truong Quang Tam *et al.* 2001).

Conservation issues

During the 1990s, Kien Giang Provincial People's Committee established a joint venture together with a Taiwanese Company. This joint venture, which was called Kien Tai, managed 60,000 ha of production forest, including 33,868 ha in Ha Tien town. The joint venture planted *Eucalyptus* sp. and *Melaleuca* sp. but was ruined financially because the scheme was unsuccessful. However, the joint venture retains land tenure for some of the most important areas of the Ha Tien plain for biodiversity conservation (Nguyen Duc Tu verbally 2000).

The seasonally inundated grassland in the Kien Luong portion of the Ha Tien plain is currently under severe threat of conversion to agriculture and forestry. Large areas are already earmarked for resettlement and agricultural conversion. However, the acid-sulphate soils mean that the area can only be converted into marginal agricultural land capable of producing meagre crops of less than one tonne of rice per hectare per year (Buckton *et al.* 1999).

Arguably the most severe and immediate threat to the seasonally inundated grassland ecosystem is, however, aquacultural development. During 2001 and 2002, the integrity of this ecosystem was severely compromised by the construction of a series of canals in Kien Luong district, resulting in significant habitat fragmentation and changes to flooding regimes. This canal construction, compounded by a lack of effective conservation management, facilitated the conversion of large areas of seasonally inundated grassland into

shrimp ponds, and, to a lesser extent, agricultural land and *Melaleuca* plantations. The rate of conversion is such that, if left unchecked, it may lead to the complete disappearance of suitable habitat for large waterbirds within the next few years (J. Eames verbally 2002).

The limestone karst ecosystem of the Ha Tien plain is also under severe and immediate threat, although from a different source. The karst formations are threatened by limestone quarrying, to produce construction materials. According to the projected pattern of exploitation, within a few years, quarrying will reduce the area of limestone karst at the site to less than 4 km², with drastic impacts on the specialised limestone fauna and flora. In addition, the influx of workers for the developing construction materials sector is leading to population increases in and around the Ha Tien plain, with further, indirect impacts on biodiversity (L. Deharveng *in litt.* 2003).

Other documented values

The Ha Tien plain is situated close to Ha Tien town, a famous tourist resort. Ha Tien town has many tourist attractions, besides the attraction of swimming in the sea, and tourism infrastructure is already well developed (Nguyen Duc Tu verbally 2000). Visitor numbers to the small Hon Chong hill and beach in the south of the Ha Tien plain are fast increasing, and the site has been dubbed the "Ha Long Bay of the South" (see Hon Chong site card). The other limestone hills in the plain have similarly spectacular karst landscapes of high potential value for ecotourism development but are under immediate threat from quarrying. Furthermore, because of the presence of Sarus Crane, the Ha Tien plain has the potential to be developed as a site for ecotourism and environmental education.

Several caves in the limestone karst formations at the site have historical value, because they served as refugia during the Second Indochina War. As a result of these values, a small portion of the largest hill in the region has been reserved from quarrying (L. Deharveng *in litt.* 2004).

Related projects

During 2003, the College of Natural Sciences, Ho Chi Minh City National University, Can Tho

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University and the International Crane Foundation implemented the *Sustainable Development and Biodiversity Conservation in the Ha Tien Plain, Kien Giang Province Project*. This project was supported by the International Finance Corporation and Holcim Vietnam, a company with interests in the construction materials sector in Kien Giang province. The outputs of this project included project proposals for the establishment of two conservation areas in Kien Luong district.

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 not currently eligible for VCF support because it is not under appropriate conservation management.

Criterion	Eligibility
A _I	LMF2 - Northwestern Mekong Delta Wetlands
A _{II}	VN003 - Ha Tien; VN005 - Kien Luong
B _I	Proposed Special-use Forest
B _{II}	Nature Reserve
B _{III}	Under provincial management
C _I	
C _{II}	

Social screening requirements

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

Criterion	Eligibility
A	
B	
C	
D	

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