

Cat Tien National Park

Alternative site name(s)

Cat Loc, Nam (Bai) Cat Tien, Tay (Bai) Cat Tien

Province(s)

Dong Nai, Lam Dong and Binh Phuoc

Area

70,548 ha

Coordinates

11°21' - 11°48'N, 107°10' - 107°34'E

Agro-ecological zone

South-eastern

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

No

Map available

Yes

Management history

Cat Tien National Park consists of three sectors: Nam Cat Tien in Dong Nai province, with an area of 38,100 ha; Tay Cat Tien in Binh Phuoc province, with an area of 5,143 ha; and Cat Loc in Lam Dong province, with an area of 30,635 ha. Hence, the total area of the national park is currently 73,878 ha (CTNP 2003b).

The first government decision related to Cat Tien is Decision No. 360/TTg of the Prime Minister, dated 7 July 1978, which decreed the establishment of a 35,000 ha protected forest at Nam Cat Tien (MARD 1997). Subsequently, an investment plan was prepared, which proposed upgrading Nam Cat Tien to national park status, with a total area of 38,900 ha (FPD 1998). This investment plan was approved on 13 January 1992, by Decision No. 08/CT of the Chairman of the Council of Ministers (Anon. 1993a). On the same day, a management board was established for the national park (Cat Tien National Park Management Board *in litt.* 2000).

The Tay Cat Tien and Cat Loc sectors of Cat Tien National Park were initially separate protected areas. Decision No. 194/CT of the Chairman of the Council of Ministers, dated 9 August 1986, decreed the establishment of a 10,000 ha nature reserve at Tay Cat Tien (MARD 1997). At a meeting held at the former Song Be Provincial People's Committee on 11 January

1993, the area of Tay Cat Tien was defined as 5,134 ha (Anon. 1993a). However, an investment plan specifically for Tay Cat Tien Nature Reserve was never prepared (Gilmour and Nguyen Van San 1999).

Following the rediscovery of Lesser One-horned Rhinoceros *Rhinoceros sondaicus* in the area in 1989 (Schaller *et al.* 1990), an investment plan was prepared for the establishment of Cat Loc Rhinoceros Sanctuary. This investment plan gave the total area of the rhinoceros sanctuary as 30,635 ha, comprising areas previously managed by Cat Tien and Loc Bac Forest Enterprises (Anon. 1992). The investment plan was approved by Official Letter No. 686/CV of Lam Dong Provincial People's Committee, dated 23 October 1992 (Anon. 1993b). However, the site remained under the direct management of Cat Tien District People's Committee until 1996, when a nature reserve management board was established.

Decision No. 08/CT of the Chairman of the Council of Ministers, dated 13 January 1992, requested the former Ministry of Forestry to prepare a comprehensive investment plan, which would combine Nam Cat Tien National Park, Tay Cat Tien Nature Reserve and Cat Loc Rhinoceros Sanctuary into a single management unit with national park status (Gilmour and Nguyen Van San 1999). The first version of this investment plan was completed in June 1993, and proposed a total area of 74,219 ha for the national park (Anon. 1993a). However, this investment plan was not approved by the government.

In 1997, FIPI and the FPD of MARD, with the support of WWF, prepared a revised investment plan for Cat Tien National Park. This investment plan gave the total area of the national park as 73,100 ha (Anon. 1997). This investment plan was approved on 5 December 1998, by Decision No. 1090/TTg of the Prime Minister (Cat Tien National Park Management Board *in litt.* 2000), at which time management responsibility for the national park was transferred from the provincial people's committees to MARD.

The national park's boundaries are currently poorly demarcated and 9,456 people live inside the national park. In 1999, the WWF *Cat Tien National Park Conservation Project* assisted the national park to assess biodiversity values and socio-economic realities on the ground in 21 purposely chosen management zones, with a view to rationalising the national park's boundaries (Polet and Ling *in press*). In 2000, the provincial authorities, central government and international donors agreed with a plan (CTNP 2000) to re-demarcate the national park boundaries and resettle a number of isolated hamlets outside of the national park. On 31 March 2003, MARD approved a more detailed boundary re-demarcation and resettlement plan, following Decision 893/QD-BNN-KL. When this plan is implemented, areas with marginal biodiversity values will be excised and no people will remain within the national park boundaries. Following this plan, Cat Tien National Park will be reduced in size by about 10%, thus avoiding the resettlement of about 8,400 of the 9,456 people living within its boundaries. The revised total area of the national park will be 70,549 ha, comprising the Nam Cat Tien sector (39,109 ha), the Tay Cat Tien sector (4,470 ha) and the Cat Loc sector (26,970 ha) (CTNP, 2003a).

Cat Tien is included on a list of Special-use Forests to be established by the year 2010, prepared by the FPD of MARD, as a 70,548 ha national park (FPD 2003); this list has not yet been approved by the government. The national park currently has 171 members of staff, including 113 forest guards, based at the headquarters and 19 guard stations (CTNP 2003b).

Topography and hydrology

The Nam Cat Tien sector of Cat Tien National Park is located in Dac Lua commune, Tan Phu district, Dong Nai province. The Tay Cat Tien sector is located in Dang Ha commune, Bu Dang district, Binh Phuoc province. The Cat Loc sector is located in Tien Hoang, Gia Vien and Phuoc Cat II communes, Cat Tien district, and Loc Bac commune, Bao Lam district, Lam Dong province.

The topography of Cat Tien National Park varies greatly among the three sectors. The Cat Loc sector is situated at the western extent of the Central Highlands and, consequently, is rather hilly. Although elevations only reach 659 m, the hills are relatively steep. The Nam Cat Tien and Tay Cat Tien sectors are situated in the lowlands of southern Vietnam, at the foot of the Central Highlands. The topography of these sectors is characterised by low, gentle hills, the highest of which reaches an elevation of 372 m.

The Dong Nai river, the second largest river in southern Vietnam, flows through the national park, forming the western boundary of the Cat Loc sector and the eastern boundary of the Nam Cat Tien sector. The numerous streams that originate in the national park drain into this river. The lowlands in the north of the Nam Cat Tien sector are poorly drained, and support an area of swamps and lakes, which are fed by seasonal flooding of the Dong Nai river.

Biodiversity values

Cat Tien National Park supports a variety of habitat types, including primary and secondary lowland evergreen forest dominated by species in the Dipterocarpaceae; primary and secondary lowland semi-evergreen forest, dominated by *Lagerstroemia* spp; freshwater wetlands with open lakes and seasonally inundated grasslands, containing *Saccharum spontaneum*, *S. arundinaceum* and *Neyraudia arundinacea*; flooded forest, dominated by *Hydnocarpus anthelmintica* mixed with *Ficus benjamina*; and a range of secondary habitat types, including grassland and areas dominated by bamboo (FIPI 1993).

Cat Tien National Park was sprayed intensively with herbicides during the Second Indochina War, and

logged immediately after. In areas of dense bamboo and grass cover, natural re-growth of trees hardly occurs. Only 50% of the total area of the national park is classified as evergreen forest, semi-evergreen forest or mixed forest. Bamboo forest accounts for 40% of total land cover. The remainder of the land cover consists of wetlands, grasslands and agricultural land (Polet and Ling in press).

The flora of Cat Tien National Park includes more than 1,300 species of vascular plants, among which are 34 species listed in the *Red Data Book of Vietnam* (Anon. 1996) and many valuable timber species, such as *Azelia xylocarpa*, *Dialium cochinchinensis*, *Dalbergia oliveri* and *Pterocarpus macrocarpus* (Vu Van Dung in litt. 2000).

To date, 76 mammal, 320 bird, 74 reptile, 35 amphibian, 99 fish and 435 butterfly species have been confirmed to occur at the national park; and there are unconfirmed records of an additional 32 mammal, 19 bird, nine reptile, four amphibian, 31 fish and four butterfly species. The species confirmed to occur include 16 mammals, 15 birds and eight reptiles that are globally threatened (Polet and Ling in press).

Cat Tien is one of the most important sites in Vietnam for the conservation of large mammals. Among the large mammal species that have been confirmed to occur at the national park are Asian Elephant *Elephas maximus*, Lesser One-horned Rhinoceros, Eurasian Wild Pig *Sus scrofa*, Sambar *Cervus unicolor* and Gaur *Bos gaurus*, of which the later three species reportedly occur at high densities relative to other areas in Vietnam (Ling 2000). Of the large mammal populations at Cat Tien National Park, the most globally significant one is that of Lesser One-horned Rhinoceros. This is the only known population of the species in mainland South-East Asia and the only known population of the sub-species *R. s. annamiticus* in the world. However, the population size and range of this species at the national park has declined over the last two decades, and current estimates put the population size at seven or eight individuals and the range at 6,500 ha (Polet *et al.* 1999).

Cat Tien National Park is also a nationally important site for primate conservation, supporting populations of several primates of conservation

concern, including Black-shanked Douc *Pygathrix nigripes*, Northern Pig-tailed Macaque *Macaca leonina* and Yellow-cheeked Crested Gibbon *Hylobates gabriellae* (Ling 2000).

Cat Tien National Park is situated in the South Vietnamese Lowlands Endemic Bird Area (EBA), and supports populations of all three bird species that characterised this EBA: Orange-necked Partridge *Arborophila davidi*, Germain's Peacock Pheasant *Polyplectron germaini* and Grey-faced Tit Babbler *Macronous kelleyi* (Stattersfield *et al.* 1998, Polet and Pham Huu Khanh 1999a). Cat Tien is also an important site for the conservation of waterbirds. Among the globally threatened waterbird species that have been recorded at the site are White-shouldered Ibis *Pseudibis davisoni*, White-winged Duck *Cairina scutulata* and Lesser Adjutant *Leptoptilos javanicus* (Polet and Pham Huu Khanh 1999a). Cat Tien National Park includes two Important Bird Areas: Nam Cat Tien and Cat Loc (Tordoff 2002).

Another globally threatened species that occurs at Cat Tien National Park is Siamese Crocodile *Crocodylus siamensis*. A survey for this species in 1999 found no evidence for its continued occurrence at the national park (Bembrick and Cannon 1999). However, with the assistance of the WWF project, 30 captive-bred Siamese Crocodiles were subsequently released into the national park, after DNA tests confirmed that they were of pure stock (Polet *et al.*, 2003b).

Conservation issues

A total of 9,456 people live inside Cat Tien National Park. These people belong to the Kinh, Tay, Chau Ma and Stieng ethnic groups (CTNP 2000). The human population of the buffer zone, which comprises 32 communes in eight districts, is, however, far higher: Polet *et al.* (2003a) give a figure of 188,479 people in 2002 (up from 140,987 in 1992), based on data from the communes. Most of the inhabitants of the buffer zone can be grouped into indigenous ethnic minorities (the Chau Ma and Stieng), ethnic minorities who have recently migrated from provinces in northern Vietnam (including the Tay, Nung, Dao and Hmong), and Kinh settlers who came to the area since 1975. Each of these groups have different land-use strategies and different

impacts on the natural resources of the national park (Gilmour and Nguyen Van San 1999).

Polet and Tran Van Mui (2003) identified 13 threats to the biodiversity and ecosystems of Cat Tien National Park: (i) human population deep inside the national park boundaries; (ii) human population inside the national park boundaries resulting in encroachment; (iii) poaching for urban markets; (iv) poaching, tree cutting and rattan harvesting for domestic consumption (rare species); (v) bamboo collection and fishing (common species); (vi) grazing of domestic livestock inside the national park, threatening the health of wild herbivores and pheasant species; (vii) encroachment of invasive alien species, eroding natural ecosystems; (viii) ageing grasslands, which pose wildfire risks and are unpalatable to wild herbivores; (ix) wildfires; (x) uncontrolled tourism development resulting in littering and noise problems; (xi) ecological isolation of the national park, leading to erosion of conservation values (especially loss of large mammals in the long term); (xii) limited or no governmental budgets for standard maintenance operations; and (xiii) poor coordination among governmental departments, within and among different governmental levels.

Four main conservation issues can be identified at the national park. First, forest land is being converted into agricultural land, reducing the area of habitat for globally threatened species, such as Lesser One-horned Rhinoceros, Asian Elephant, Gaur and Orange-necked Partridge. This conversion is being undertaken by people residing within the national park boundaries, especially in the Cat Loc sector, which supports the Lesser One-horned Rhinoceros population. Second, illegal exploitation of timber, rattans, mammals, birds and fish is still taking place inside the national park. Third, some areas within the national park are designated as agricultural land, and, thus, not under the management of the national park management board, which only controls land designated as forest land. Poor coordination among different local government agencies is resulting in an emphasis on agricultural development instead of biodiversity conservation in the agricultural land within the national park. Fourth, there exist plans to construct three hydro-electric dams (the Dong Nai 3, 4 and 5) on the Dong Nai river, upstream of the national park. Such developments may cause a

reduction in the peak discharge of the Dong Nai river. A high peak discharge is required to cause a reversal of flow in the Dak Lua stream and thus to supply the wetlands in the north of the Nam Cat Tien sector with water. Construction of the dams may, therefore, lead to a reduction in the size of these important wetlands, with implications for migratory and resident waterbird species, fish species, and grazing mammals (G. Polet *in litt.* 2000). There needs to be a special focus on the potential impact of these dams, since the Vietnam Electrical Authority have recently approved the feasibility studies for the Dong Nai 3 and 4 dams (CTNP 2003b).

A number of conservation measures are currently being planned or implemented at Cat Tien National Park. Conversion of forest land into agricultural land was brought largely under control following the integration of the three sectors into a single national park in 1998, and the subsequent recruitment and deployment of extra FPD staff (G. Polet *in litt.* 2000).

With the assistance of the WWF project, the national park management plan has been revised. The biodiversity values and socio-economic realities of 21 management zones have been evaluated, and, for each zone, specific management activities have been formulated. The boundary of the national park has been revised to exclude areas of agricultural land near the boundary that have little biodiversity value. A number of human settlements within the national park that are situated in areas of high biodiversity value have been scheduled for resettlement, while other human settlements will be allowed to remain within the national park but only under specific terms and conditions and within clearly demarcated areas (CTNP 2000, 2003a).

With the assistance of the WWF project, the national park is implementing active habitat management activities. A detailed conservation management regime has been defined in a *Conservation Management and Operational Plan* (CTNP 2003b). The invasive alien *Mimosa pigra* is controlled annually, and is gradually being eradicated. Floating vegetation in the Bau Sau wetlands is being kept under control. A regime of controlled burning has been adopted to prevent wildfires and to provide additional grazing for wild herbivores. A population of Siamese Crocodiles *Crocodylus siamensis* has been re-

established in the national park's wetland complex. This has been the first ever reintroduction of this species into the wild (Polet *et al.* 2003b).

Conservation education activities have been developed with the assistance of WWF staff. Secondary schools teachers have been trained in the use of a conservation education tool kit. Mass production and circulation of story books and notebooks with conservation messages have reached every household and every child in and around the national park. A strong collaboration with national and international television and film crews has resulted in a number of documentary productions. National television has been a strong communication tool to deliver conservation messages to a very large number of people.

Both the national park managers and the WWF project are actively pursuing continuous exchange of information and coordination between among local governmental agencies and between different governmental levels. This is being achieved by means of face-to-face contacts, regular meetings and seminars (G. Polet *in litt.* 2000).

The WWF project, the US Fish and Wildlife Service and WWF-US have provided training and equipment for all FPD staff, in order to enable them to operate more effectively and more confidently while on patrol. Two rhino patrol and monitoring units operate in the area of the Cat Loc sector where the Lesser One-horned Rhinoceros occur. These teams consist of FPD staff and local villagers (G. Polet *in litt.* 2004).

The WWF project is also seeking ways to reduce the dependency of local people on the natural resources of the national park by developing community development activities which bring about conservation benefits (G. Polet *in litt.* 2000).

The WWF project and the national park managers are monitoring the status of the planned hydro-electric dam developments on the Dong Nai river. At the same time, they are trying to gain a better understanding of the hydrological interactions between the Dong Nai river and the wetlands in the north of the Nam Cat Tien sector. Associated with this, studies are currently underway to nominate the wetlands as a wetland of

international importance under the Ramsar Convention (Wuytack 2000).

Other documented values

The forest at Cat Tien National Park has an important role in protecting the watershed of the Tri An reservoir, one of the most important sources of water for domestic and industrial use in Ho Chi Minh City.

In addition, Cat Tien National Park receives a growing number of domestic tourists, many of whom visit on day or weekend trips from Ho Chi Minh City. The national park is also gaining in popularity amongst specialist foreign tourists, including birdwatchers. The proximity of the national park to Ho Chi Minh City, its location on the route between Ho Chi Minh City and Da Lat city, the well developed tourism infrastructure at the site, and the ease at which wildlife can be seen relative to other sites in Vietnam, are all factors in favour of growth in the tourism sector. However, management of tourism remains weak, and is certainly posing a threat to the biodiversity of the national park. There is, therefore, a need to develop tourism in a controlled and environmentally sensitive manner.

Related projects

WWF and MARD are currently implementing the *Cat Tien National Park Conservation Project*, with funding from the governments of the Netherlands and Vietnam. This project began implementation in May 1998 and is projected to continue until June 2004. The project's objectives are grouped into four result areas:

Result Area 1: Effective protection of Cat Tien National Park. The focus of this result area is on the core zone of the national park, including core forest protection, boundary demarcation, habitat and species management, research and monitoring, as well as continuing liaison and cooperation with key stakeholders of the national park. An important component of this result area is the compilation of a five-year management plan and operational budget. The management plan will synthesise the sub-strategies developed by each of the departments within the national park. This will seek to provide greater strategy and improved direction to management

activities over the medium term, and will provide an important basis for discussions and planning for future support to the national park.

Result Area 2: Human impacts reduced to sustainable levels. The focus of this result area is on addressing direct human impacts on the core zone of the national park, including impacts of local people and tourists.

Result Area 3: Landscape-level strategy to support the management of Cat Tien National Park. The focus of this result area is on providing support for activities at the landscape level and in the wider south-eastern agro-ecological zone. Support will be prioritised for activities where: (i) they may have a direct or indirect positive impact on conservation of the national park, such as forest protection, control of wildlife trade, biodiversity surveys, management planning, exchange visits and capacity building, or (ii) the existing expertise and capacity of the national park staff can make an important contribution to other stakeholders within the landscape and wider agro-ecological zone. Support delivered under this result area will also provide an opportunity to support other Special-use Forest management boards in the agro-ecological zone, specifically including the development of operational management plans for Lo Go-Xa Mat and Bu Gia Map National Parks, and Bi Dup-Nui Ba Nature Reserve. Support to other Special-use Forest management boards under this result area may include technical and financial support for high priority Special-use Forests in the agro-ecological zone, guard-to-guard training of forest guards, provision of habitat management advice, and building capacity and awareness of other Special-use Forest management boards in the agro-ecological region. An important focus of this result area is the development of a landscape-level strategy and action plan, which will provide a basis on which to develop a design for future support at the landscape level.

Result Area 4: Effective institutional and administrative support, including integration of budgets and work programmes between the WWF *Cat Tien National Park Conservation Project* and the national park. The focus of this result area is on: (i) providing on-going support for the effective management of budgetary and work programming procedures at the national park; (ii) supporting the process of improving the integration of the project and

national park budgets; (iii) providing a basis for joint budget and work programming for the 2003 financial year; and (iv) supporting and responding to the findings of an office management review of the project.

The activities of the project can be grouped into four main areas: capacity building, research, community development and conservation education. Capacity building activities include training of national park and relevant district staff, provision of equipment and infrastructure, and maintenance of roads and trails within the national park. Research activities include studies of the ecosystem and socio-economy of the area, with the aim of formulating a revised management plan for the national park and underpinning development-oriented interventions in the buffer zone. Community development activities are restricted to those that lead to a reduction in the human pressure on the natural resources of the national park. Conservation education activities are aimed at schools within and around the national park, as well as visitors to the national park. These activities include production of educational materials, training of teachers and construction of a visitors' centre (G. Polet *in litt.* 2000).

A second major donor-assisted project currently being implemented at Cat Tien National Park is the *Forest Protection and Rural Development Project*. This project is being implemented by the provincial authorities and MARD, with funding from the World Bank and the government of the Netherlands. This project began implementation in September 1999 and is projected to continue until 2004. The aim of this project is to reduce local people's dependency on the natural resources of the national park by initiating and executing community development activities that can be expected to have conservation benefits, including land allocation and rural infrastructure development, in the buffer zone (G. Polet *in litt.* 2000).

The US Fish and Wildlife Service have funded three smaller WWF-implemented projects at Cat Tien National Park. The first of these was an awareness campaign for Lesser One-horned Rhinoceros in Vietnam. This project was implemented between October 1999 and August 2000, and involved the production of educational materials targeting school children living in and around the national park; and

policy and decision makers at the central, provincial, district and commune levels (G. Polet *in litt.* 2000).

The second project to be funded by the US Fish and Wildlife Service was a genetic analysis of Lesser One-horned Rhinoceros dung samples, in order to assess the size and composition of the population. This project was implemented between June 1999 and July 2003, in collaboration with WWF-Indonesia and Columbia University (G. Polet *in litt.* 2000).

The third project was entitled *Status of Asian Elephants in Cat Tien National Park*. This project was implemented between October 2000 and December 2001. The project was implemented in collaboration with the Asian Elephant Research and Conservation Centre, Bangalore, India, and the Institute of Ecology and Biological Resources. Project activities included training for national park staff in elephant census and monitoring techniques, year-round monitoring activities, analysis of data on elephant status at the national park, and formulation of a management plan for elephants at the national park and in surrounding areas (Sukumar *et al.* 2002).

Conservation needs assessment

A conservation needs assessment was conducted for the site in 2003 (CTNP 2003b). During the conservation needs assessment, 15 direct threats to biodiversity at the national park were identified:

- encroachment and habitat loss;
- hunting;
- invasive species;
- release of non-native animals;
- collection of non-timber forest products;
- grazing of cattle;
- river bank erosion;
- uncontrolled tourism;
- forest fires;
- weapons not controlled;
- development impacts inside the national park;
- pollution of water;
- planned dams;
- human-wildlife conflicts;
- mining.

Operational management plan

An operational management plan was prepared for the national park in 2003 (CTNP 2003b). The priority conservation activities formulated in this plan were grouped into the follow areas:

1. forest protection;
2. surveys and monitoring;
3. rhino protection and monitoring unit;
4. habitat management;
5. forest rehabilitation and maintenance;
6. human resettlement;
7. boundary re-demarcation;
8. conservation education;
9. sustainable tourism;
10. sustainable resource management;
11. assessment and plans of forest enterprises;
12. conservation activities in buffer zone forests;
13. design of strategy for the south-east agro-ecological zone.

Eligibility against VCF criteria

Cat Tien meets eligibility criteria A, B and C. However, as a centrally managed Special-use Forest, it will only be eligible for VCF support if the Investment Plan and Operational Management Plan demonstrate a high proportion of government support directed towards conservation activities.

Criterion	Eligibility
A _I	SA5 - Lowland Dong Nai Watershed
A _{II}	VN052 - Cat Loc; VN053 - Nam Cat Tien
B _I	Decision No. 1090/TTg, dated 05/12/98
B _{II}	National Park
B _{III}	Under central 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	

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