

# Ke Go Nature Reserve

## Alternative site name(s)

Ho Ke Go

## Province(s)

Ha Tinh

## Status

Decreed

## Management board established

Yes

## Latitude

18°00' - 18°09'N

## Longitude

105°50' - 106°07'E

## Bio-unit

05c - North Annam



## Conservation status

Ke Go is located in Huong Khe, Cam Xuyen and Ky Anh districts in the south of Ha Tinh province. The site does not include Ke Go reservoir. Prior to 1990, the Ke Go area was under the management of Cam Ky Forest Enterprise, which managed all the forested areas in Ky Anh and Cam Xuyen districts, Ha Tinh province. In 1990, Cam Ky Forest Enterprise ceased logging operations and part of the area under its management was designated as Ke Go Reservoir Watershed Protection Forest (WPF). On 1 June 1994, following decision No. 773 QD/UB of Ha Tinh Provincial People's Committee, a management board was created for Ke Go Reservoir WPF. When Ke Go Nature Reserve was decreed in 1996, it combined 7,511 ha previously under the management of Ky Anh II Forest Enterprise, 5,905 ha previously under the management of Ha Dong Forest Enterprise and 11,385 ha previously under the management of Ke Go Reservoir WPF (Le Trong Trai *et al.* 1999).

Ke Go is situated in the Annamese lowlands, an area noted for the occurrence of several endemic bird species, including the globally endangered Vietnamese Pheasant *Lophura hatinhensis* and the globally critically endangered Imperial Pheasant *L. imperialis* (Stattersfield *et al.* 1998). BirdLife International, in collaboration with the Centre for Natural Resources

and Environmental Studies (CRES), first initiated field surveys for these enigmatic pheasants in 1988. In early 1990, the two organisations identified the forests of Ke Go as being potentially important for the conservation of these species (Le Trong Trai *et al.* 1999).

Following the rediscovery of Vietnamese Pheasant *Lophura hatinhensis* and Imperial Pheasant *L. imperialis* in southern Ha Tinh province in 1988 and 1990 respectively (Robson *et al.* 1991), an investment plan for Ke Go Nature Reserve was published by BirdLife International and FIPI in August 1996 (Le Trong Trai *et al.* 1996). This investment plan gave the total area of the nature reserve as 24,801 ha, comprising a strict protection area of 20,537 ha and a forest rehabilitation area of 4,264 ha. Following Decision No. 970/TTg, Ke Go Nature Reserve was decreed by the government of Vietnam on 28 December 1996. The establishment of the nature reserve was approved by Ha Tinh Provincial People's Committee on 3 May 1997, following Decision No. 519/QD-UB, and a management board was formed on 12 June 1997. Ke Go Nature Reserve is currently under the management of Ha Tinh Provincial DARD (Ha Tinh Provincial DARD 2000). Ke Go Nature Reserve is included on the 2010 list with an area of 24,801 ha (FPD 1998).

## Topography and hydrology

The northern boundary of Ke Go Nature Reserve follows the southern shore of Ke Go reservoir. To the south, the nature reserve extends to the border between Ha Tinh and Quang Binh provinces. The topography of the nature reserve is comprised of gently undulating low hills, a landscape typical of the midlands of central Vietnam. Elevations in the nature reserve range between 50 and 497 m, although most of the nature reserve is below 300 m.

There are three main watersheds in Ke Go Nature Reserve. The Rao Boi watershed feeds Ngan Sau river, which flows into the Ngan Pho river, which in turn flows into the Lam River, and thence into the South China Sea. Ke Go reservoir watershed is fed by a number of rivers and permanent streams and covers the largest area of the nature reserve. The Chin Xai-Cat Bin watershed feeds the Khe Canh river, which flows south into Quang Binh province and, eventually, joins the Gianh river.

## Biodiversity value

Ke Go Nature Reserve supports 24,284 ha of natural forest, equivalent to 98% of the total area. However, the forest has been selectively logged in the past, 76% of it is classified as heavily disturbed, and undisturbed primary forest is virtually absent. Lightly disturbed forest is concentrated at higher elevations, while heavily disturbed forest is distributed in more accessible lowland areas. Below 300 m, the tree flora is dominated by *Michelia* spp., *Cinnamomum* spp., *Madhuca pasquieri* and *Erythrophleum fordii*. Above 300 m, the tree flora is dominated by *Hopea* spp. (Le Trong Trai *et al.* 1999).

To date, 46 species of mammal, 270 species of bird and 562 species of plant have been recorded at Ke Go Nature Reserve. Ten globally threatened mammal species have been recorded at the nature reserve. However, several of these species, in particular Asian Elephant *Elephas maximus*, Gaur *Bos gaurus* and Tiger *Panthera tigris*, may already be extinct or reduced to relict populations as a result of hunting. Buff-cheeked Gibbon *Hylobates gabriellae*, another species of conservation concern, is reported to be extremely rare

in the area as a result of unrestricted hunting and exploitation of the forest (Le Trong Trai *et al.* 1999).

Ke Go Nature Reserve is situated in the Annamese Lowlands Endemic Bird Area, and supports populations of five restricted-range bird species: Imperial Pheasant, Vietnamese Pheasant, Crested Argus *Rheinardia ocellata*, Short-tailed Scimitar Babbler *Jabouilleia danjoui* and Grey-faced Tit Babbler *Macronous kelleyi*. Of greatest significance, Ke Go Nature Reserve, together with the adjacent forest area in northern Quang Binh province, is the only site in the world known to support a population of Vietnamese Pheasant.

## Conservation issues

The major threats to biodiversity at Ke Go Nature Reserve are hunting, illegal timber extraction, charcoal production, fuelwood collection and fragrant oil extraction (Le Trong Trai *et al.* 1999). There are 8,873 households in the buffer zone of Ke Go Nature Reserve, with a total of 39,917 people, belonging mainly to the Kinh ethnic group (Ha Tinh Provincial DARD 2000). Around half of these households supplement their incomes through the exploitation of forest resources such as firewood, charcoal, palm leaves, rattans and honey (Le Trong Trai *et al.* 1999).

Fragrant oil distillation is widely practised and has significantly contributed to the degradation of the forest at Ke Go Nature Reserve. Fragrant oil is distilled from *Cinnamomum parthenoxylum*, although other members of the Lauraceae family are also used. It is estimated that, for each tree fragrant oil is distilled from, one square kilometre of forest is negatively affected, because the process requires large quantities of firewood (Le Trong Trai *et al.* 1999).

Timber is extracted for use locally in construction but is also illegally exported abroad. The tree species favoured for timber are *Hopea* spp., although other species of lower value are also exploited (Le Trong Trai *et al.* 1999).

Hunting also plays an important role in the local economy. Prior to the opening of Vietnam's economy, animals were hunted principally for local consumption. However, the opening of Vietnam's economy has changed this pattern significantly: foreign demand for

wild animals has broadened the range of species subject to hunting and increased overall hunting pressure. Populations of large and medium-sized mammals suffer from constant hunting pressure. Moreover, the use of non-specific hunting methods, such as traps and snares, threatens ground bird species, such as Vietnamese Pheasant (Le Trong Trai *et al.* 1999).

Ke Go Nature Reserve has a staff of 70, including 56 forest guards. The staff are stationed at the nature reserve headquarters and five guard stations (Ha Tinh Provincial DARD 2000).

Ke Go Nature Reserve is contiguous with a large area of natural forest in northern Quang Binh province. This area is included within Khe Net proposed nature reserve (see Khe Net site card). Together, the two sites contain one of the largest remaining areas of natural forest in the Annamese lowlands.

## Other documented values

Ke Go Nature Reserve protects a large proportion of the watershed of Ke Go reservoir. This reservoir has high economic importance, since it supplies domestic water for Ha Tinh town and irrigates 22,000 ha of agricultural land. Similarly, the nature reserve protects part of the watershed of the Gianh river, an important source of water for irrigation in Quang Binh province (Le Trong Trai *et al.* 1999).

The potential timber and tourism values of the nature reserve are less apparent. Due to the intensity and duration of past commercial logging, the commercial timber value of the forest at Ke Go has declined significantly, to the extent that commercial logging is of dubious economic viability. The nature reserve remains, however, an important source of timber and non-timber forest products for local communities. The presence of numerous globally threatened and restricted-range bird species could attract a small number of specialised ecotourists, particularly overseas bird watchers. Overall, however, the proposed nature reserve can be considered to have low potential for general ecotourism because wildlife populations have been seriously depressed by hunting, to the point at which most mammals and large birds are impossible to observe. In addition, Ke Go is a lowland area and lacks any major landscape features, and the

nature reserve currently has no visitor facilities (Le Trong Trai *et al.* 1999).

## Related projects

Prior to the establishment of Ke Go Nature Reserve, CRES, Ky Anh District People's Committee and Ha Tinh Provincial Department of Science, Technology and the Environment implemented a project to protect the Gat Che Me area in the east of the nature reserve. This project was supported financially by ORO-VERDE.

Between 1992 and 1998, with funding from the National Environment Programme of Vietnam, the Institute of Ecology and Biological Resources conducted a biodiversity survey of the Ke Go area.

In 1996, as part of the European Union-funded project *The Conservation of Biodiversity in the Annamese Lowlands and the Da Lat Plateau, Vietnam*, BirdLife and FIPI prepared an investment plan for Ke Go Nature Reserve.

In 1996, with funding from the Danish Embassy in Hanoi, BirdLife and Oxfam UK-Ireland implemented a one-year environmental education project. This project worked in collaboration with Ky Anh District Department of Education and Training in the buffer zone of Ke Go Nature Reserve.

Between 1997 and 1999, with funding from the British Birdwatching Fair, BirdLife implemented the *Ke Go Forest Project*. Project activities include construction of two guard stations, provision of motorbikes and other equipment, and training for nature reserve staff.

In 1998, the Non-timber Forest Product Research Centre of the Forest Science Institute of Vietnam, began implementing the project *Sustainable Utilisation of Non-timber Forest Products*, with funding from the Netherlands Government and technical support from IUCN. The aim of the project is to promote the conservation of biodiversity through the sustainable use of non-timber district forest products. Pilot activities are currently being carried out, in collaboration with CRES, in Cam Xuyen in the buffer zone of Ke Go Nature Reserve, and, in collaboration with ECO-ECO, in the buffer zone of Ba Be National Park (Raintree *et al.* 1999).

Since 1998, the Department for International Development of the United Kingdom government has been funding a poverty alleviation programme in Ha Tinh province entitled the *Ha Tinh Poverty Programme*. This programme is being implemented by ActionAid, Oxfam Great Britain and Save the Children (UK), in collaboration with the Vietnam Women's Union (Anon. 1997a, 1998, 1999).

In 2001, Dansk Ornitologisk Forening (BirdLife Denmark), together with Ha Tinh Provincial DARD and the BirdLife International Vietnam Programme will begin implementing an integrated conservation and development project entitled *The Sustainable Management of Ke Go Nature Reserve*. This project will be funded by Danida. The project will aim to conserve the biodiversity of Ke Go Nature Reserve while improving the socio-economic conditions of local communities in the buffer zone. The project has three main objectives: (i) to strengthen the capacity of the nature reserve management board to undertake management planning and facilitate management of natural resources by local communities; (ii) to develop community-based resource-use activities that support the conservation objectives and address environmental, productive and social issues in the buffer zone; and (iii) to raise environmental awareness among the local population and authorities, in order to support the objectives of the management plan and the long-term conservation of the nature reserve.

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