

# Chu Yang Sin Nature Reserve

## Alternative site name(s)

Chu Giang Sinh

## Province(s)

Dak Lak

## Status

Decreed

## Management board established

Yes

## Latitude

12°14' - 12°31'N

## Longitude

108°18' - 108°35'E

## Bio-unit

Mb - Dalat Plateau



## Conservation status

Chu Yang Sin was included on Decision No. 194/CT of the Chairman of the Council of Ministers, dated 9 August 1986, which proposed establishing a 20,000 ha nature reserve (MARD 1997). In 1993, an investment plan was prepared for Chu Yang Sin, which proposed establishing a 32,328 ha nature reserve, comprising a strict protection area of 19,401 ha, a forest rehabilitation area of 12,907 ha and an administration and services area of 20 ha (Anon. 1993). This investment plan was approved by Dak Lak Provincial People's Committee on 21 March 1994, by Official Letter No. 261/TT-UB (Anon. 1997).

Based on recommendations made by Le Trong Trai *et al.* (1996), a revised investment plan was prepared in 1997 (Anon. 1997). The revised investment plan proposed expanding the area of the nature reserve to 59,278 ha, comprising a strict protection area of 19,401 ha, and a forest rehabilitation area of 39,877 ha. This investment plan was approved by Dak Lak Provincial People's Committee on 16 September 1997, by Official Letter 1824/TT-UB, and by MARD on 31 December 1997 by Decision No. 4898/NN-KH/CV (Anon. 1997). Following the approval of the revised investment plan, a nature reserve management board was established under the management of Dak Lak Provincial DARD (Nguyen Cu pers. comm.). A management unit of 30

staff was appointed in 1999, to manage the nature reserve (P. Jepson pers. comm.).

Chu Yang Sin Nature Reserve is included on the 2010 list. However, the area is given as 54,227 ha, including 43,019 ha of forest (FPD 1998).

## Topography and hydrology

Chu Yang Sin Nature Reserve is located in Lak and Krong Bong districts, Dak Lak province, 60 km to the south-east of Buon Ma Thuot town. Chu Yang Sin Nature Reserve encompasses a range of high mountains in the northern part of the Da Lat plateau. The nature reserve is centred on Mount Chu Yang Sin, which, at 2,442 m, is the highest point on the Da Lat plateau. The mountains in the nature reserve are characteristically steep (with an average slope greater than 30°) and the valleys are narrow.

The north of Chu Yang Sin Nature Reserve is drained by the Ea K'tour stream, which flows north to join the Ea Krong Ana river. Streams in the south of Chu Yang Sin flow into the Krong No river. Both the Ea Krong Ana and Krong No rivers flow west and north before joining the Srepok River in Cambodia, which drains into the Mekong basin (Anon. 1993, 1997).

## Biodiversity value

Le Trong Trai *et al.* (1996) recorded a total of 876 species of plant at Chu Yang Sin Nature Reserve. At elevations below 800 m, the nature reserve supports lowland semi-deciduous forest, characterised by such deciduous tree species as *Lagerstroemia calyculata* and *Terminalia nigrovenulosa*, and lowland evergreen forest, dominated by *Hopea odorata*, *Dipterocarpus alatus* and *D. turbinatus*. Montane evergreen forest is widely distributed above 800 m, and dominated by members of the Fagaceae and Lauraceae. Montane evergreen forest at Chu Yang Sin is also characterised by coniferous species such as *Pinus dalatensis*, *P. krempfii*, *P. kesiya* var. *langbianensis*, *Podocarpus imbricatus* and *Fokienia hodginsii*. On mountain summits and ridge lines, elfin forest is distributed, dominated by *Lyonia annamensis*, *L. ovalifolia* and the dwarf bamboo *Arundinaria* sp. Coniferous forest, dominated by *Pinus kesiya*, occupies more than 10,600 ha of the nature reserve. This is a secondary vegetation type that is formed in areas subject to periodic burning. A significant proportion of the nature reserve supports bamboo forest, dominated by *Oxytenanthera nigrociliata* and *Bambusa procera*. Open secondary growth, scrub and grassland cover less than 1% of the total area of the nature reserve (Le Trong Trai *et al.* 1996).

Chu Yang Sin Nature Reserve is situated within the Da Lat Plateau Endemic Bird Area (Stattersfield *et al.* 1996). Eight restricted-range bird species have been recorded at Chu Yang Sin: Germain's Peacock Pheasant *Polyplectron germaini*, Grey-crowned Crocias *Crocias langbianis*, Black-hooded Laughingthrush *Garrulax milleti*, Collared Laughingthrush *G. yersini*, White-cheeked Laughingthrush *Garrulax vassali*, Short-tailed Scimitar Babbler *Jabouilleia danjoui*, Grey-faced Tit Babbler *Macronous kelleyi* and Yellow-billed Nuthatch *Sitta solangiae* (Le Trong Trai *et al.* 1996). The most important of these species, from a conservation perspective, is Grey-crowned Crocias, which is endemic to the Da Lat plateau and classified as globally critically endangered. A total of 203 bird species and 46 mammal species have been recorded at the site. Mammals of particular conservation significance recorded at Chu Yang Sin include Black-shanked Douc Langur *Pygathrix nemaeus nigripes* and

Buff-cheeked Gibbon *Hylobates gabriellae* (Le Trong Trai *et al.* 1996).

## Conservation issues

Hunting, fishing and rattan collection currently do not pose significant threats to the natural resources of the nature reserve (Chu Yang Sin Nature Reserve staff pers. comm.). However, the social make-up of the buffer zone communities is in flux. The traditional subsistence economy of the indigenous M'Nong and Ede ethnic groups is rapidly transforming into a multi-ethnic and market-driven agricultural economy, as a result of improved road access, rural development projects and spontaneous in-migration of Hmong people from northern Vietnam. Without an appropriate balance of controls and incentives, these social changes could lead to the emergence of "grey" economies based on exploitation of the natural resources of the nature reserve (P. Jepson pers. comm.).

## Other documented values

Chu Yang Sin Nature Reserve has an important role in protecting the watershed of the Srepok River. The nature reserve has potential for ecotourism development, although this is currently not realised.

## Related projects

Danida and the Vietnamese government are currently funding a project for integrated rural development in Yang Mao commune, Krong Bong district. This project is part of the *Action Plan for Water Resources Development in the Upper Srepok Basin, Vietnam* (Poulsen 1995).

BirdLife International Vietnam Programme and Dak Lak Provincial DARD are currently developing a medium-sized Global Environment Facility (GEF) project entitled *The Establishment of Chu Yang Sin Nature Reserve for Five Years*. The objectives of this project are to: (i) produce and implement a management plan for Chu Yang Sin Nature Reserve, through consultation with all stakeholders; (ii) raise awareness and generate support among stakeholders of the need for the sustainable management of Chu Yang Sin Nature Reserve; (iii) provide institutional strengthening to Dak Lak Provincial Forest

Development Department (FDD) through training and provision of infrastructure and equipment; (iv) elaborate, promote and implement strategies which will directly enhance the conservation of biodiversity at the site; and (v) create synergies within local government, especially the provincial FDD, which will promote better biodiversity conservation.

## Literature sources

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