

Nghia Hung

Criteria: A1, A4i & A4iii

Province(s): Nam Dinh
PA Status: None

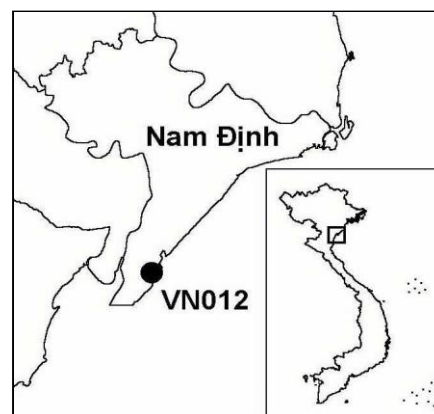
Latitude: 19°58'N
Longitude: 106°10'E
Area: 7,600 ha
Altitude Range: 0-2 m asl

EBA / SA:

None

Priority Landscape:

None

**General Description**

Nghia Hung IBA is located in the south of the Red River Delta, and comprises 12 km of coastline, between the estuaries of the Day and Ninh Co rivers. Adjacent to the Ninh Co estuary, the main habitats are saltmarsh, sandy beaches and dunes, some of which have been afforested with the exotic *Casuarina equisetifolia*. To the west of the Ninh Co estuary, the coastline is dominated by aquacultural ponds, some of which support beds of *Phragmites* reed. In the Day estuary, a large area of intertidal mudflats extends offshore. The landward side of these mudflats has been afforested with mangrove, much of which has been enclosed within aquacultural ponds. The IBA also includes two small, sandy islands, about 5 km offshore¹.

Bird Fauna: Key Features

Nghia Hung is an important staging and wintering site for migratory waterbirds. Each year, the site supports significant numbers of wintering gulls, shorebirds and waterfowl. During April 1994, it was estimated that over 30,000 shorebirds were in the district¹. A high tide roost of shorebirds is located on the southernmost offshore island where a maximum of 1,774 shorebirds were recorded during May 1996¹. Surveys to date have recorded the occurrence of nine globally threatened and near-threatened species at the site, including two endangered species, Spotted Greenshank *Tringa guttifer* and Black-faced Spoonbill *Platalea minor*. In addition, the site regularly supports more than 1% of the Asian biogeographic population of Spotted Redshank *T. erythropus* and Lesser Sand Plover *Charadrius mongolus*. Furthermore, Nghia Hung is not only important for migratory waterbirds; the offshore islands are both important stop-over sites for passerine migrants and other migratory birds.

Species	IBA Criteria	Global Threat Status	Other IBAs	Notes
Spotted Greenshank <i>Tringa guttifer</i>	A1	EN	3	A maximum of two birds were observed during April 1994 ² . Five individuals were recorded at the site in May 1996 ¹ .
Black-faced Spoonbill <i>Platalea minor</i>	A1, A4i	EN	8	This species has been recorded on several occasions during recent years, with maximum counts of 28 birds in 1993, 41 in 1994, 10 in 1995, 16 in 1996 and 12 in 1997 ^{2,3} .
Spoon-billed Sandpiper <i>Eurynorhynchus pygmeus</i>	A1	VU	3	The species was observed on a number of occasions during April 1994, with a maximum count of seven birds ² .
Saunders's Gull <i>Larus saundersi</i>	A1, A4i	VU	5	The species has been observed on a number of occasions during recent years, with maximum counts of 260 birds in 1994, 120 in 1995, 17 in 1997 and 18 in 2001. All records are from the period from January to March ^{2,4} .
Chinese Egret <i>Egretta eulophotes</i>	A1	VU	6	Three individuals were observed in April 1993 ³ . The species was observed on a number of occasions between March and May 1994, with a maximum count of two birds ² .
Spot-billed Pelican <i>Pelecanus philippensis</i>	A1	VU	6	Four birds were observed in June 1994 ² .
Asian Dowitcher <i>Limnodromus semipalmatus</i>	A1	NT	5	The species was observed on a number of occasions between April and June 1994, with a maximum count of eight birds ² .

Species	IBA Criteria	Global Threat Status	Other IBAs	Notes
†Black-headed Ibis <i>Threskiornis melanocephalus</i>	A1	NT	8	A single immature bird was observed in February 1994 ² . It is unlikely that the site regularly supports a significant population of this species.
†Japanese Paradise-flycatcher <i>Terpsiphone atrocaudata</i>	A1	NT	1	A single male was seen roosting on one of the small offshore islands during April 1994 ² . The site is unlikely to regularly support a significant population.
Spotted Redshank <i>Tringa erythropus</i>	A4i		2	Counts of 750 and 640 birds were made in April 1994 and May 1996 respectively ^{1,2} .
Lesser Sand Plover <i>Charadrius mongolus</i>	A4i		0	A count of 2,000 birds was made in April 1994 ⁴ .

Notes: † = not confirmed to regularly occur in significant numbers.

Biome Restricted Species: The site does not qualify under criterion A3. See Appendix 4 for details.

Secondary Criteria

The site does not qualify under any secondary criterion.

Threats to Biodiversity

The main threats to biodiversity at Nghia Hung are hunting, disturbance and habitat loss. Hunting presents a particular threat to populations of waterbirds. During February 1996, 20 km of mist-nets were observed in the intertidal area of the site. Hunters also use airguns and shotguns. The main quarry species are ducks and geese, which are sold for export to China. Despite the introduction of a hunting ban, levels of hunting have remained high because local people depend heavily on exploitation of natural resources and do not understand why the ban was introduced, and because the local authorities have not implemented the ban strictly. In addition to hunting with guns, disturbance to birds, arising from shellfish collection, is also a threat. During a survey in 1996, around 1,000 people were observed engaged in this activity in the intertidal zone.

A further threat to biodiversity at the site is habitat loss. Habitat loss takes two forms. Firstly, intertidal mudflats are being afforested with mangrove, with the support of the Danish Red Cross. Secondly, intertidal habitats are being enclosed within aquacultural ponds. As of March 1998, there was a plan to construct a second dyke, which would enclose large areas of intertidal mudflat, including areas afforested with mangrove by the Danish Red Cross. These threats arise partly from a lack of appreciation among the district and provincial authorities of the value of mudflats and natural mangrove^{1,2}.

Threat	Severity
Afforestation	• • •
Aquaculture/ fisheries	• • •
Construction of dykes / dams	• • •
Disturbance to birds	• •
Hunting	• • •

Conservation Actions

- None to date.

Recommendations

- Nghia Hung meets the criteria for designation as a site of international importance for wetland conservation under the Ramsar Convention, and should, therefore, be designated as a Ramsar site¹.
- A management plan should be developed for the entire coastal zone of Nghia Hung district that seeks to promote sustainable exploitation of aquatic resources, taking into account the importance of feeding and roosting habitats for migratory shorebirds¹.
- Capacity building should be undertaken to improve the technical and management capacity of the district FPD.
- Strict controls on hunting should be introduced throughout the coastal zone of Nghia Hung district.
- Awareness-raising activities should be conducted among the stakeholders of the area to promote understanding and appreciation of the values of migratory birds, natural mangrove and intertidal mudflats.

References

1. Pedersen, A. and Nguyen Huy Thang (1996) *The conservation of key coastal wetland sites in the Red River Delta*. Hanoi: BirdLife International Vietnam Programme.

2. Pedersen, A., Nielsen, S., Le Dien Thuy and Le Trong Trai (1998) *The status and conservation of threatened and near-threatened species of birds in the Red River Delta, Vietnam*. Bird Conservation International 8: 31-51.
3. Birdlife International (2001) *Threatened birds of Asia: the Birdlife International red data book*. Cambridge, UK: Birdlife International.
4. Eames, J. C. and Tordoff, A. W. (in prep) Recent records and a conservation status review of some threatened and near-threatened bird species in Vietnam.



Spotted Greenshank *Tringa guttifer*

Xuan Thuy

Criteria: A1, A4i & A4iii

Province(s): Nam Dinh
PA Status: Nature Reserve

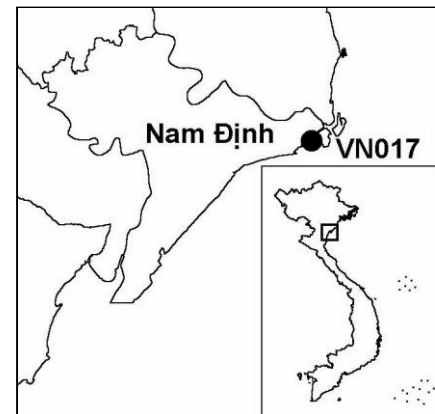
Latitude: 20°13'N
Longitude: 106°33'E
Area: 12,000 ha
Altitude Range: 0-3 m asl

EBA / SA:

None

Priority Landscape:

None



General Description

The IBA comprises Xuan Thuy Ramsar site, which is situated in the coastal zone of the Red River Delta, to the south of the mouth of the main channel of the Red River. Due to its location, there is a high rate of sediment deposition at the IBA, forming large intertidal mudflats, which are important habitats for migratory waterbirds. In addition to the intertidal mudflats, there are three large islands at the IBA: Con Ngan, Con Lu and Con Xanh. Con Ngan, the largest island, supports a large area of mangrove, which has almost entirely been enclosed within aquacultural ponds. Con Lu, a large, sandy island, supports coastal marshes and plantations of the exotic *Casuarina equisetifolia*. Con Xanh, the smallest island, is a thin sandy island, still increasing in size due to sediment deposition.

Bird Fauna: Key Features

Xuan Thuy is the most important staging and wintering area for migratory waterbirds in the coastal zone of the Red River Delta. During surveys in 1988 and 1994, more than 20,000 waterbirds were observed^{1,2}. During the spring of 1996, it was estimated that 33,000 shorebirds passed through the IBA³. The IBA regularly supports over 1% of the biogeographic population of a number of commoner migratory waterbird species, including Black-tailed Godwit *Limosa limosa*, Spotted Redshank *Tringa erythropus* and Eurasian Curlew *Numenius arquata*. In addition, the IBA supports nationally significant wintering populations of Heuglin's Gull *Larus heuglini* and Black-headed Gull *L. ridibundus*. However, it is for regularly supporting significant numbers of globally threatened and near-threatened waterbird species that the IBA is most notable. Xuan Thuy supports the largest wintering population of Black-faced Spoonbill *Platalea minor* in Vietnam, with around 50 birds each winter in recent years. In addition, the IBA supports significant wintering populations of Saunders's Gull *Larus saundersi*, Spotted Greenshank *Tringa guttifer* and Spoon-billed Sandpiper *Eurynorhynchus pygmeus*. Furthermore, over 1% of the biogeographic population of Asian Dowitcher *Limnodromus semipalmatus* regularly uses the IBA as a staging ground. Finally, Xuan Thuy is an important site for non-waterbird migration, with large numbers of passerines, cuckoos and other birds passing through the IBA during the spring and autumn migrations.

Species	IBA Criteria	Global Threat Status	Other IBAs	Notes
Spotted Greenshank <i>Tringa guttifer</i>	A1, A4i	EN	3	The species is a regular winter visitor in small numbers, with maximum counts of five birds in the winter of 1993/1994, two in 1994/1995, 14 in 1995/1996, six in 1996/1997, 28 in 1997/1998, three in 1998/1999 and 10 in 1999/2000 ^{2,3,4,5} .
Black-faced Spoonbill <i>Platalea minor</i>	A1, A4i	EN	8	The species is a regular winter visitor, with maximum counts of 25 birds in the winter of 1993/1994, 34 in 1994/1995, 75 in 1995/1996, 42 in 1996/1997, 30 in 1997/1998, 20 in 1998/1999, 55 in 1999/2000, 47 in 2000/2001 and 65 in 2001/2002 ^{2,3,5} .
†Baer's Pochard <i>Aythya baeri</i>	A1	VU	0	The species is a very rare winter visitor to the site. The only recent records are of a flock of six seen in December 1996 ⁵ and a single bird seen in December 2001 ⁶ . It is unlikely that the site regularly supports significant numbers of this species.

Species	IBA Criteria	Global Threat Status	Other IBAs	Notes
Spoon-billed Sandpiper <i>Eurynorhynchus pygmeus</i>	A1	VU	3	The species is a regular winter visitor in small numbers, with maximum counts of two birds in the winter of 1993/1994, one in 1994/1995, 15 in 1995/1996, 27 in 1996/1997, 10 in 1997/1998, six in 1998/1999, four in 1999/2000, two in 2000/2001 and six in 2001/2002 ^{2,3,5} .
Saunders's Gull <i>Larus saundersi</i>	A1, A4i	VU	5	The species is a regular winter visitor, with maximum counts of 30 birds in the winter of 1993/1994, 28 in 1994/1995, over 100 in 1995/1996, 77 in 1996/1997, 34 in 1997/1998, 30 in 1998/1999, 50 in 1999/2000 and three in 2001/2002 ^{2,3,5,7} . However, the highest single count was of around 200 birds in March 1988 ¹ .
Chinese Egret <i>Egretta eulophotes</i>	A1	VU	6	The species is a rare passage migrant, with one or two birds being seen most years ⁵ . The species also appears to be a very rare winter visitor, with a single record of two birds from December 2001 ⁶ .
Spot-billed Pelican <i>Pelecanus philippensis</i>	A1	VU	6	This species is a non-breeding visitor to the site in small numbers. The species occurs most years, with the highest count to date being five birds in August 1994 ² .
†Fairy Pitta <i>Pitta nympha</i>	A1, A3	VU	2	The species is a rare passage migrant, and is only known from a single record in September 1999 ⁵ . It is unlikely that the site regularly supports a significant population.
†Manchurian Reed Warbler <i>Acrocephalus tangorum</i>	A1	VU	0	The species appears to be a rare passage migrant. To date, there have been only two confirmed records from the site: one or two birds in October 1997 and one bird in October 2000 ^{5,8} . Although it is possible that this species may have been overlooked during previous surveys, it is unlikely that the site regularly supports significant numbers.
†Far Eastern Curlew <i>Numenius madagascariensis</i>	A1	NT	4	Single birds were recorded in October 1997 and January 2000 ⁵ . It is unlikely that the site regularly supports significant numbers of this species.
Asian Dowitcher <i>Limnodromus semipalmatus</i>	A1, A4i	NT	5	The species is a regular passage migrant, with maximum counts of 165 birds in the winter of 1993/1994, 181 in 1994/1995, 35 in 1995/1996, 20 in 1996/1997, three in 1997/1998, two in 1998/1999, eight in 1999/2000 and six in 2000/2001 ^{2,3,5} .
†Black-headed Ibis <i>Threskiornis melanocephalus</i>	A1	NT	8	A single bird was observed in August 2001 ⁵ . It is unlikely that the site regularly supports a significant population of this species.
Painted Stork <i>Mycteria leucocephala</i>	A1	NT	10	The species is a regular non-breeding visitor, with between 13 and 30 birds recorded each year ^{2,5} . The most recent record was of 17 birds in September 2001 ⁵ .
Black-tailed Godwit <i>Limosa limosa</i>	A4i		1	The species is a regular winter visitor in large numbers, with a largest count to date of around 5,000 individuals in April 1996 ³ .
Eurasian Curlew <i>Numenius arquata</i>	A4i		1	The species is a regular winter visitor, with a largest count to date of 900 birds in November 1997 ⁹ .
Spotted Redshank <i>Tringa erythropus</i>	A4i		2	The species is a regular winter visitor in large numbers, with a largest count to date of 1,500 birds in March 1988 ¹ .
Grey-tailed Tattler <i>Heteroscelus brevipes</i>	A4i		0	The species is a regular passage migrant, with a largest count to date of 1,000 birds in May 1997 ⁹ .
Dunlin <i>Calidris alpina</i>	A4i		0	The species is a regular winter visitor, with a largest count to date of 1,500 in February 1995 ⁹ .

Notes: † = not confirmed to regularly occur in significant numbers.

Biome Restricted Species: The site does not qualify under criterion A3. See Appendix 4 for details.

Secondary Criteria

The site does not qualify under any secondary criterion.

Threats to Biodiversity

The greatest threat to biodiversity at Xuan Thuy is habitat loss. Mangrove afforestation is taking place on the intertidal mudflats, with the objectives of land reclamation and foreshore protection. This is changing the nature of

the substrate, and threatening to make these areas unsuitable for Black-faced Spoonbill, Saunders's Gull, Spoon-billed Sandpiper and other bird species for which intertidal mudflats are the preferred feeding habitat¹⁰. The low counts of these species in recent years are surely a reflection of the consequences of afforestation⁹. Additionally, on Con Ngan, aquacultural intensification is leading to die-back of emergent vegetation, and the loss of roosting habitats for a range of bird species. Furthermore, sandy islands, which support dune and saltmarsh vegetation, are being afforested with the exotic *Casuarina equisetifolia*¹¹. Finally, Xuan Thuy once supported one of the largest reedbeds in Vietnam, which seasonally supported large numbers of roosting Eurasian Marsh Harriers *Circus aeruginosus* and Pied Harriers *C. melanoleucos*, as well as reed swamp species, such as Purple Heron *Ardea purpurea*. However, this reedbed has since been cleared, as a result of agricultural and aquacultural intensification⁹.

During the early 1990s, hunting was a major threat to bird populations at Xuan Thuy. During the 1990s, numbers of Greylag Geese *Anser anser* and ducks wintering at Xuan Thuy decreased dramatically⁹. However, since the establishment of a nature reserve at the site, hunting levels have declined significantly. Unfortunately, large areas of key habitat for migratory shorebirds lie outside the nature reserve boundary, and birds using these areas are still exposed to hunting pressure. Of the 12,000 ha Ramsar site, only 7,680 ha are included within the nature reserve. An additional threat derives from the high human population density in the surrounding area, and high levels of human use of the site. Activities such as fishing and shellfish collection in the intertidal zone may disturb the globally threatened bird species, either directly or indirectly¹¹. An additional source of disturbance to birds is the dogs kept by workers at the aquacultural ponds¹⁰.

Threat	Severity
Afforestation	• • •
Agricultural intensification / expansion	•
Aquaculture / fisheries	• •
Disturbance to birds	• •
Hunting	•
Selective logging / cutting	•

Conservation Actions

- In 1988, Xuan Thuy was designated as Vietnam's first, and to date only, Ramsar site¹¹.
- The government of Vietnam decreed Xuan Thuy as a nature reserve in 1994¹¹.
- Xuan Thuy is one of the sites included in a proposed medium-sized Global Environment Facility (GEF) project, focussing on conservation of coastal wetlands, currently being developed by the Centre for Natural Resources and Environmental Studies¹¹.
- Since 2001, BirdLife International and the nature reserve management board have been implementing a Keidanren Nature Conservation-funded project to establish an ecological monitoring programme at Xuan Thuy.

Recommendations

- The boundaries of the nature reserve should be revised to incorporate important areas of habitat for migratory waterbirds, including intertidal mudflats to the south-west of Con Lu and aquacultural ponds on Con Ngan.
- There should be no further afforestation of intertidal mudflats with mangrove.
- The responsibilities of the nature reserve management board should be extended to include management of aquaculture and fishing activities at the site. To this end, the management board should be expanded to include members of staff from the district fisheries office.
- A management plan should be developed for the nature reserve, that balances the economic, coastal protection and biodiversity values of different habitat types and promotes environmentally sustainable development.

References

1. Scott, D. A. ed. (1989) *A directory of Asian wetlands*. Gland: IUCN.
2. Pedersen, A., Nielsen, S., Le Dien Thuy and Le Trong Trai (1998) The status and conservation of threatened and near-threatened species of birds in the Red River Delta, Vietnam. *Bird Conservation International* 8: 31-51.
3. Pedersen, A. and Nguyen Huy Thang (1996) *The conservation of key coastal wetland sites in the Red River Delta*. Hanoi: BirdLife International Vietnam Programme.
4. Hornbuckle, J. (1998) *Vietnam trip report 24 March to 14 April 1998*. Unpublished report posted on the WorldTwitch Website.
5. Eames, J. C. and Tordoff, A. W. (in prep) Recent records and a conservation status review of some threatened and near-threatened bird species in Vietnam.
6. A. Allport *in litt.* 2002.
7. C. R. Robson *in litt.* 2002.
8. Birdlife International (2001) *Threatened birds of Asia: the Birdlife International Red Data Book*. Cambridge, UK: Birdlife International.
9. J. C. Eames personal observations.

10. Yu, Y. T. and Swennen, C. (2001) *Is mangrove afforestation destroying Black-faced Spoonbill habitat in the Red River Delta?* OBC Bulletin 33: 53-56.
11. BirdLife International and the Forest Inventory and Planning Institute (2001) *Sourcebook of existing and proposed protected areas in Vietnam*. Hanoi: BirdLife International Vietnam Programme and the Forest Inventory and Planning Institute.



Spoon-billed Sandpiper *Eurynorhynchus pygmeus*

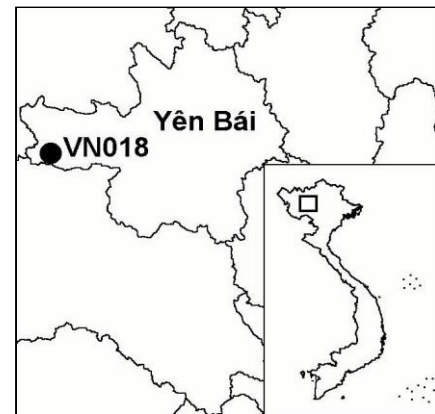
Che Tao

Criteria: A1, A2 & A3

Province(s): Yen Bai and Son La
PA Status: None

Latitude: 21°42'N
Longitude: 104°02'E
Area: 16,000 ha
Altitude Range: 260-2,512 m asl

EBA / SA:
 Fan-Si-Pan and Northern Laos SA
Priority Landscape:
 None



General Description

Che Tao IBA is situated in the Hoang Lien mountains of northern Vietnam. The IBA is centred on Che Tao commune, Mu Cang Chai district, Yen Bai province but also includes contiguous forest areas. The topography of the IBA is dominated by a horseshoe of mountains which form the boundary of Che Tao commune. There are many peaks above 2,000 m asl in this horseshoe, while elevations in the central valley are generally below 1,500 m asl. Although forest at lower elevations has been extensively cleared for shifting cultivation, the IBA still supports significant areas of upper and lower montane evergreen forest. Large areas have been degraded by timber extraction but more remote areas are pristine and show no signs of human activity¹. Che Tao is believed to support the largest population of Black Gibbon *Nomascus concolor* remaining in Vietnam³.

Bird Fauna: Key Features

The IBA is notable for its intact montane avifauna. Surveys to date have recorded 107 bird species at Che Tao, although the current inventory is undoubtedly incomplete¹. The avifauna of the site bears strong similarity with that of Fan Si Pan and Van Ban IBAs. Che Tao is the only site in Vietnam from where there has been a confirmed record of Temminck's Tragopan *Tragopan temmincki* in the last 70 years². Recent field records of Rufous-necked Hornbill *Aceros nipalensis* at the site are especially significant, as this globally threatened species has recently been recorded at only one other site in Vietnam: Pu Mat IBA.

Species	IBA Criteria	Global Threat Status	Other IBAs	Notes
Rufous-necked Hornbill <i>Aceros nipalensis</i>	A1, A3	VU	1	Four records of this species were made in lower montane evergreen forest, between 1,200 and 1,800 m asl, in April 2001 ¹ . All were of single males, with the exception of one record, which may have involved two males ¹ . Reports from local people suggest a total population of 28 to 37 birds ¹ .
Yellow-billed Nuthatch <i>Sitta solangiae</i>	A1, A2	NT	11	A single bird was seen in upper montane evergreen forest, at c.2,100 m asl, in September or October 2000 ³ .
Broad-billed Warbler <i>Tickellia hodgsoni</i>	A2		2	A single individual and two pairs were seen in upper montane evergreen forest, at 2,100 m asl, in April 2001 ¹ .

Biome Restricted Species: The site qualifies under criterion A3 because it supports 13 species restricted to the Sino-Himalayan Temperate Forests (Biome 07). See Appendix 4 for details.

Secondary Criteria

Species	Status	Species	Status
Assamese Macaque <i>Macaca assamensis</i> ⁴	VU	[Black-breasted Leaf Turtle <i>Geoemyda spengleri</i>] ^{3,4}	EN
Rhesus Macaque <i>M. mulatta</i> ⁴	NT	[Impressed tortoise <i>Manouria impressa</i>] ^{1,4}	VU
Stump-tailed Macaque <i>M. arctoides</i> ⁴	VU	<i>Calocedrus macrolepis</i> ^{3,4}	VU
Black Gibbon <i>Nomascus concolor</i> ^{1,3}	EN	<i>Fokienia hodginsii</i> ^{1,3,4}	NT
[Big-headed Turtle <i>Platysternon megacephalum</i>] ^{1,4}	EN	Southern Serow <i>Naemorhedus sumatraensis</i> ^{3,4}	VU

Notes: [] = unconfirmed record.

Threats to Biodiversity

The major threat to biodiversity at Che Tao is hunting, although this appears to have declined somewhat following the initiation of a community-based conservation project. Other major threats are habitat degradation and loss, due to forest clearance for agriculture, selective timber extraction and forest fire¹. These risks are likely to increase in the future as a result of infrastructure development projects. Firstly, there exist plans to construct roads into the IBA, which would facilitate the exploitation of valuable timber trees in remote parts of the site. This would be a particular problem for Rufous-necked Hornbill, which nests in large trees. Secondly, the construction of the Song Da dam is forcing the resettlement of households from the inundation zone into areas close to Che Tao IBA in Son La province, thereby increasing pressure on the natural resources of the site.

Threat	Severity
Agricultural intensification / expansion	• •
Fire	• •
Hunting	• • •
Infrastructure development	• • •
Selective logging / cutting	• •

Conservation Actions

- Under the auspices of the project *Community-based Conservation of the Hoang Lien Mountains Ecosystem*, the Fauna & Flora International (FFI) Vietnam Programme and Yen Bai Provincial Forest Protection Department are currently implementing a programme of conservation initiatives at Che Tao. Activities to date include biological and human ecological surveys, community-based initiatives, environmental awareness raising, and establishment of a new protected area. In 2003, FFI will expand its Hoang Lien project to incorporate poverty alleviation interventions focusing on community-based natural resources management, together with further protected area development and landscape-scale approaches, culminating in the gazettelement of a Man and the Biosphere Reserve.

Recommendations

- On-going community-based conservation measures should be continued, strengthened and extended to parts of the IBA in Son La province.
- Che Tao should be placed under an appropriate protected area designation, a management board should be established, and controls on hunting and timber extraction should be enforced.
- There should be no further road construction within the IBA.
- No households from the inundation zone of the Song Da dam should be resettled close to the IBA.

References

1. Tordoff, A. W., Le Trong Dat and Hardcastle, J. (2001) *A rapid biodiversity survey of Che Tao commune, Mu Cang Chai district, Yen Bai province, Vietnam*. Unpublished report to the BirdLife International Vietnam Programme and the Fauna & Flora International Indochina Programme.
2. Eames, J. C. and Tordoff, A. W. (in prep) Recent records and a conservation status review of some threatened and near-threatened bird species in Vietnam.
3. Long, B., Tallents, L. and Tran Dinh Nghia (2000) *The biological diversity of Che Tao commune, Yen Bai province, Vietnam*. Unpublished report to the Fauna & Flora International Indochina Programme.
4. Fauna & Flora International Vietnam Programme (in prep.) *An investment plan for the establishment of Mu Cang Chai Species/Habitat Conservation Area*. Hanoi: Fauna & Flora Vietnam Programme.



Rufous-necked Hornbill *Aceros nipalensis*

Cuc Phuong

Criteria: A1, A2 & A3

Province(s): Ninh Binh, Hoa Binh and Thanh Hoa

PA Status: National Park

Latitude: 20°19'N

Longitude: 105°37'E

Area: 22,200 ha

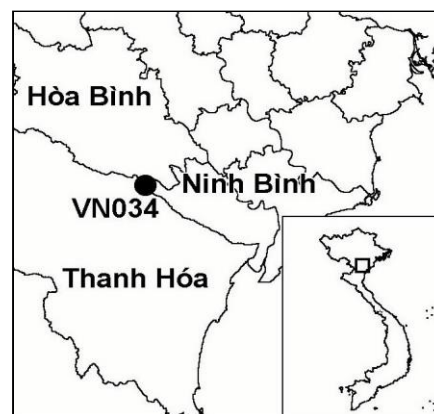
Altitude Range: 50-648 m asl

EBA / SA:

Annamese Lowlands EBA

Priority Landscape:

NA 1 - Northern Indochina Limestone

**General Description**

The IBA comprises Cuc Phuong National Park, which is located in the Annamese lowlands. The topography of the IBA is dominated by a wide belt of limestone karst, which runs from north-west to south-east. This belt is bisected by a central valley, where the topography is flatter. The natural vegetation of the IBA is dominated by limestone forest, although this has been cleared around the edges of the IBA and replaced by secondary vegetation, mainly scrub. At the time of establishment of the national park, there were a number of ethnic minority villages within the boundaries, mainly along the central valley. Most of these villages have now been relocated into the buffer zone¹.

Bird Fauna: Key Features

Although Cuc Phuong IBA is situated within the Annamese Lowlands Endemic Bird Area (EBA), it only supports one of the nine restricted-range species found in this EBA: Short-tailed Scimitar Babbler *Jabouilleia danjoui*². This may be explained partly by the IBA's location at the northern extremity of the EBA, outside of the natural range of many of the restricted-range species. Another factor may be the high past and current hunting pressure at the IBA, which may have resulted in the extirpation of a number of species. Cuc Phuong IBA supports a number of globally near-threatened species, including Chestnut-necklaced Partridge *Arborophila charltonii*, Red-collared Woodpecker *Picus rabieri* and Brown Hornbill *Anorrhinus tickelli*. However, the densities of these species at the IBA appear lower than at certain other sites in the Annamese Lowlands EBA. Perhaps the greatest significance of Cuc Phuong IBA is the large number of biome-restricted species found at the site, including some that are found at few other sites in Vietnam, such as Eared Pitta *Pitta phayrei*, Black-breasted Thrush *Turdus dissimilis* and Limestone Wren Babbler *Napothera crispifrons*².

Species	IBA Criteria	Global Threat Status	Other IBAs	Notes
†Imperial Eagle <i>Aquila heliaca</i>	A1	VU	2	One bird was observed in late December 1999 ³ . It is unlikely that the site regularly supports a significant population.
Chestnut-necklaced Partridge <i>Arborophila charltonii</i>	A1	NT	7	The species is an uncommon to fairly common resident, with numerous records since April 1988 ⁴ .
Red-collared Woodpecker <i>Picus rabieri</i>	A1, A3	NT	11	One bird was seen at Cuc Phuong in April 1999 ⁵ .
Brown Hornbill <i>Anorrhinus tickelli</i>	A1, A3	NT	16	The species is a scarce resident with occasional records of single birds and small groups since April 1988 ⁴ .
Short-tailed Scimitar Babbler <i>Jabouilleia danjoui</i>	A1, A2	NT	17	A single individual was recorded in February 1995 ⁶ .

Notes: † = not confirmed to regularly occur in significant numbers.

Biome Restricted Species: The site qualifies under criterion A3 because it supports 29 species restricted to the Sino-Himalayan Subtropical Forests (Biome 08) and 18 species restricted to the Indochinese Tropical Moist Forests (Biome 09). See Appendix 4 for details.

Secondary Criteria

Species

Delacour's Langur *Trachypithecus delacouri*¹

Status

CR

Species

Keeled Box Turtle *Pyxidea mouhotii*⁷

Status

EN

Threats to Biodiversity

Due to the limestone karst topography, the rate of conversion of forest to agriculture is currently very low. However, habitat degradation remains a major threat to biodiversity at Cuc Phuong IBA, due to unsustainable exploitation of timber and other forest products by local communities. The buffer zone of the national park is home to around 50,000 people, many of whom depend upon forest products, such as timber and firewood. As well as resulting in habitat degradation, unsustainable exploitation of forest products also directly threatens populations of species of high economic value, such as turtles. Besides direct exploitation of natural resources, another major threat to biodiversity at Cuc Phuong IBA is unsustainable tourism development. In recent years, Cuc Phuong has become a major destination for domestic tourists. Apart from the direct impacts of the large numbers of tourists, in the form of litter, excessive noise and collection of plants and animals, development of tourist infrastructure has had serious impacts on biodiversity. For example, artificial lakes and a swimming pool have been constructed inside the national park, resulting in forest clearance and altered hydrology¹.

The third major threat to biodiversity at Cuc Phuong IBA is the construction of National Highway 2, which will bisect western parts of the IBA. The construction of this road could facilitate further exploitation of forest products and human settlement inside the IBA. Indeed, initial construction surveys and preparation have already led to incidents of hunting by workers.

Threat	Severity
Agricultural intensification / expansion	•
Hunting	• •
Infrastructure development	• •
Recreation / tourism	• •
Selective logging / cutting	•
Unsustainable exploitation of NTFPs	• •

Conservation Actions

- Cuc Phuong was decreed as a protected area by the government of Vietnam in 1962¹.
- Cuc Phuong was upgraded to national park status in 1966, and a management board was established in the same year¹.
- During the late 1980s and early 1990s, seven villages were relocated from within the national park to the buffer zone.
- Between 1996 and 2002, Fauna and Flora International (FFI), in collaboration with the national park management board, implemented the *Cuc Phuong Conservation Project*, with the objective of supporting natural resource conservation within the national park¹.
- Frankfurt Zoological Society have established an endangered primate rescue centre at Cuc Phuong, which receives primates confiscated from the wildlife trade, and carries out captive breeding and veterinary research¹.
- The German Economic Development Programme (DED) is implementing a series of micro-interventions, comprising various alternative income generating activities, in the buffer zone of the national park¹.
- The University of Illinois is implementing a medicinal plant conservation project at Cuc Phuong, comprising several conservation, research and community development activities.
- A medium-sized GEF project focussing on the Cuc Phuong-Pu Luong limestone range has been developed by FFI and the Forest Protection Department (FPD) of the Ministry of Agriculture and Rural Development (MARD), and is currently awaiting implementation.

Recommendations

- Enforcement of protected area management regulations, particularly controls on hunting, timber extraction and NTFP collection, should be strengthened.
- Tourism should be developed in a sustainable manner in order that negative impacts on biodiversity are minimised and that biodiversity conservation remains the principal management objective of the national park. In particular, there should be no further development of tourism infrastructure within the core zone of the national park.
- The existing programme of conservation awareness in the buffer zone of the national park should be maintained and strengthened.
- Small-scale community development initiatives should be implemented in the buffer zone of the national park, particularly in Yen Thuy and Lac Son districts, Hoa Binh province, in order to reduce dependence of local communities on natural resources.

- A monitoring system should be introduced at the national park, to monitor changes in habitats, populations of key species and threats.
- Prior to the construction of National Highway 2 through the IBA, an Environmental Impact Assessment should be conducted, and mitigation measures should be implemented, including introducing strict controls on human settlement and exploitation of forest products.

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Chestnut-necklaced Partridge *Arborophila charltonii*

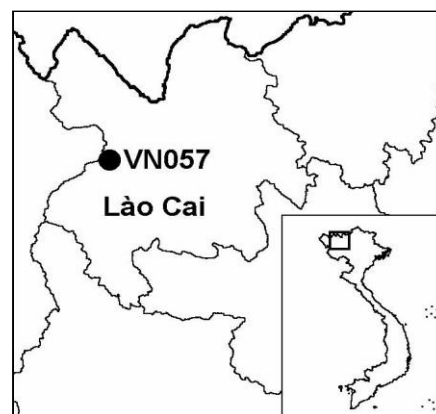
Fan Si Pan

Criteria: A1, A2 & A3

Province(s): Lao Cai and Lai Chau
PA Status: National Park

Latitude: 22°16'N
Longitude: 103°53'E
Area: 49,584 ha
Altitude Range: 380-3,143 m asl

EBA / SA:
 Fan Si Pan and Northern Laos SA
Priority Landscape:
 None



General Description

The IBA is centred on Mount Fan Si Pan in the Hoang Lien mountains, which, at 3,143 m asl, is the highest peak in Vietnam. The IBA comprises Hoang Lien Son National Park in Lao Cai province and Hoang Lien Son-Lai Chau proposed nature reserve in Lai Chau province. The topography of the IBA is dominated by a high ridge of mountains including several peaks above 2,800 m asl. The major natural habitat types at the IBA are lower montane evergreen forest and upper montane evergreen forest. At higher elevations, on ridge crests, there are extensive elfin forest formations dominated by conifers and *Rhododendron* spp. At lower elevations, the natural vegetation has been extensively cleared by shifting cultivation and forest fire, and replaced by secondary bamboo and scrub. Almost no natural forest remains below 1,000 m asl^{1,2}.

Bird Fauna: Key Features

Recorded bird species richness at Fan Si Pan IBA is higher than at any other site in Vietnam, with 347 species being recorded to date², although this may, in part, reflect the high levels of historical and recent survey effort. Fan Si Pan IBA supports the largest number of biome-restricted species of any IBA in Vietnam, including 17 species not recently recorded at any other IBA: Chestnut Thrush *Turdus rubrocanus*, Gould's Shortwing *Brachypteryx stellata*, White-browed Bush Robin *Tarsiger indicus*, Blue-fronted Robin *Cinclidium frontale*, Crested Finchbill *Spizixos canifrons*, Buff-barred Warbler *Phylloscopus pulcher*, White-throated Laughingthrush *Garrulax albogularis*, Black-faced Laughingthrush *G. affinis*, Red-faced Liocichla *Liocichla phoenicea*, Spot-breasted Scimitar Babbler *Pomatorhinus erythrocnemis*, White-collared Yuhina *Yuhina diademata*, Ashy-throated Parrotbill *Paradoxornis alphonsianus*, Yellow-bellied Flowerpecker *Dicaeum melanoxanthum*, Black-headed Greenfinch *Carduelis ambigua*, Dark-breasted Rosefinch *Carpodacus nipalensis*, Scarlet Finch *Haematospiza sipahi* and Brown Bullfinch *Pyrrhula nipalensis*.

All four of the restricted-range species that define the Fan Si Pan and Northern Laos Secondary Area have been recorded at the IBA. However, there are recent confirmed records of only two of these species: Broad-billed Warbler *Tickellia hodginsi* and Red-winged Laughingthrush *Garrulax formosus*². The other two restricted-range species, Ward's Trogon *Harpactes wardi* and Yellow-billed Nuthatch *Sitta solangiae* have not been confirmed at the IBA in the last 60 years, and it is possible that these species have become locally extinct as a result of habitat loss at lower elevations and hunting³. Fan Si Pan IBA is the only site in Vietnam from where there are recent confirmed records of the globally vulnerable Wood Snipe *Gallinago nemoricola*. In addition, the IBA is a bottleneck for migratory raptors, with nearly 2,000 counted during a two-week period in 1997⁴.

Species	IBA Criteria	Global Threat Status	Other IBAs	Notes
Wood Snipe <i>Gallinago nemoricola</i>	A1	VU	0	A single bird was recorded in October 1997. A single bird was recorded at 1,700 m asl in November 1997. Three single birds were observed in upper montane evergreen forest at c.2,500 m asl in February and March 1998 ³ .
†Greater Spotted Eagle <i>Aquila clanga</i>	A1	VU	2	A total of fifteen birds were observed in passage in October 1997, and a single bird was observed in November 1997 ⁴ . The site probably does not regularly support a significant population of this species.

Species	IBA Criteria	Global Threat Status	Other IBAs	Notes
Beautiful Nuthatch <i>Sitta formosa</i>	A1, A3	VU	3	The species has been recorded on several occasions in recent years, at elevations between 1,400 and 1,900 m asl ^{2,3} .
†Japanese Paradise-flycatcher <i>Terpsiphone actrocaudata</i>	A1	NT	1	A single male, presumably a passage migrant, was observed in May 2000 ³ . However, the site is unlikely to regularly support a significant population.
Broad-billed Warbler <i>Tickellia hodgsoni</i>	A2		2	The species has been recorded on a number of occasions in recent years in upper montane evergreen forest between 2,100 and 2,400 m asl ^{2,3} .
Red-winged Laughingthrush <i>Garrulax formosus</i>	A2		0	The species was recorded in upper montane evergreen forest at 2,650 m asl in December 1996 ⁵ .

Notes: † = not confirmed to regularly occur in significant numbers.

Biome Restricted Species: The site qualifies under criterion A3 because it supports 39 species restricted to the Sino-Himalayan Temperate Forests (Biome 07) and 69 species restricted to the Sino-Himalayan Subtropical Forests (Biome 08). See Appendix 4 for details.

Secondary Criteria

Species	Status	Species	Status
[Pygmy Loris <i>Nycticebus pygmaeus</i>] ²	VU	<i>Fokienia hodgsonii</i> ^{2,6}	NT
[Assamese Macaque <i>Macaca assamensis</i>] ²	VU	<i>Podocarpus neriifolius</i> ⁶	DD
[Rhesus Macaque <i>Macaca mulatta</i>] ²	NT	<i>Amentotaxus argotaenia</i> var. <i>argotaenia</i> ⁶	VU
[Stump-tailed Macaque <i>Macaca arctoides</i>] ²	VU	<i>Amentotaxus yunnanensis</i> ⁶	VU
Black Gibbon <i>Nomascus concolor</i> ²	EN	<i>Taxus wallichiana</i> ⁶	DD
<i>Calocedrus macrolepis</i> ⁶	VU	Southern Serow <i>Naemorhedus sumatraensis</i> ^{2,5}	VU

Notes: [] = unconfirmed record.

Threats to Biodiversity

The major threats to biodiversity at Fan Si Pan IBA are over-exploitation of natural resources, clearance of land for agriculture, accidental fire and hunting. Clearance of land for cultivation and associated forest fires are resulting in habitat loss. The habitat type most threatened is lower montane evergreen forest, which has already been significantly reduced in extent. Remaining areas of natural habitat at all elevations are being degraded by selective timber extraction, collection of firewood and establishment of cardamom plantations².

Another major threat to biodiversity is hunting, both for domestic consumption and to supply the wildlife trade. Hunting pressure is widespread and intense throughout the IBA, and targets even the smallest vertebrate species. It is likely that hunting pressure, combined with habitat loss at lower elevations, has already resulted in the local extinction of Rufous-necked Hornbill *Aceros nipalensis*, a globally threatened species that is known historically from the site².

Finally, a potential threat to biodiversity at the IBA is tourism development. The IBA is located close to the major tourist destination of Sa Pa, from where treks are organised to the summit of Mount Fan Si Pan, increasing the risk of accidental fires. In addition, there exist plans to construct a road to the summit of Mount Fan Si Pan, which would lead to habitat loss and facilitate access to the forest by hunters and illegal loggers.

Threat	Severity
Agricultural intensification / expansion	• •
Fire	• • •
Forest grazing	•
Hunting	• • •
Infrastructure development	• •
Recreation / tourism	• •
Selective logging / cutting	• •

Conservation Actions

- The establishment of Hoang Lien Son Nature Reserve in Lao Cai province was decreed by the government of Vietnam in 1986, and, subsequently, a management board was established¹.
- In July 2002, Hoang Lien Son Nature Reserve and adjacent forest areas in Than Uyen district were upgraded to national park status.
- An investment plan to establish a nature reserve encompassing contiguous forest areas in Lai Chau province was prepared in 2000, although, to date, it has not been approved at the provincial or ministerial level¹.
- In 1998, Frontier-Vietnam initiated an environmental education programme in Sa Pa district, focusing on the IBA¹.

- Sa Pa district was selected as a case-study for the IUCN *Capacity Building for Sustainable Tourism Initiatives Project*¹.
- Frontier-Vietnam are currently implementing a pilot project to investigate the potential of medicinal plant cultivation as an alternative source of income for ethnic minority people living in and around the IBA¹.
- With funding from the Asia Development Assistance Facility, Forest Herbs Research Ltd., Frontier-Vietnam and Lao Cai Provincial People's Committee have developed the *Medicinal Plant Innovation Project*, which will be implemented over a two year period beginning in December 2002.

Recommendations

- Enforcement of national park management regulations, particularly controls on hunting and clearance of forest for agriculture should be strengthened.
- The capacity of national park staff in the fields of conservation management planning and protected area management should be strengthened³.
- A programme of education and extension should be implemented to raise awareness of the threat of forest fire and to demonstrate practical techniques to mitigate this threat³.
- The boundaries of the national park should be revised to exclude areas of agricultural land and human habitation, and include areas of natural habitat to the north³.
- Existing social forestry schemes involving local communities in forest protection and natural forest regeneration should be expanded, with a particular focus on areas of lower montane evergreen forest, the most threatened habitat type at the IBA³.
- Plans to construct a road to the summit of Mount Fan Si Pan are incompatible with biodiversity conservation and in direct contravention of national park management regulations and should be abandoned.
- In the context of the recent upgrade of Hoang Lien Son to national park status and the increasing numbers of tourists visiting the area, measures should be implemented to promote the sustainable development of tourism, in order to minimise potential negative environmental impacts, and to provide an alternative source of income for local communities that depend upon the natural resources of the IBA.
- The investment plan for Hoang Lien Son-Lai Chau Nature Reserve should be approved, and a management board should be established.

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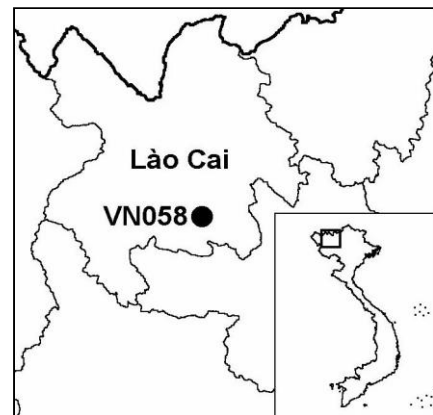
Wood Snipe *Gallinago nemoricola*

Van Ban

Criteria: A1, A2 & A3

Province(s): Lao Cai
PA Status: None
Latitude: 22°03'N
Longitude: 104°11'E
Area: 60,000 ha
Altitude Range: 200-2,913 m asl

EBA / SA:
 Fan Si Pan and Northern Laos SA
Priority Landscape:
 None



General Description

The IBA is situated in the Hoang Lien mountains, roughly mid-way between Fan Si Pan and Che Tao IBAs. While the precise boundaries of the IBA have yet to be defined, it comprises around 60,000 ha of western Van Ban district, including some of the largest areas of closed canopy forest remaining in the Hoang Lien mountains. The major habitats types at the IBA are lowland evergreen forest, lower montane evergreen forest, upper montane evergreen forest and anthropogenic habitats. Lowland evergreen forest is distributed at elevations between 300 and 900 m asl. While this habitat has been degraded by selective timber extraction, the forest canopy is still closed in some areas. Lower montane evergreen forest is distributed at elevations between 900 and 1,800 m asl, and is characterised by the presence of two conifer species: *Dacrycarpus imbricatus* and *Fokienia hodginsii*. Upper montane evergreen forest is distributed at elevations above 1,800 m asl, and is characterised by the presence of *Rhododendron* spp. Anthropogenic habitats are found at all but the very highest elevations, and include both permanent and shifting cultivation, and, in areas that have been cleared for agriculture or subjected to burning, secondary grassland and scrub¹.

Bird Fauna: Key Features

The bird community of Van Ban IBA is characteristic of montane evergreen forest in northern Vietnam. The bird community of upper montane evergreen forest is characterised by the presence of Black-faced Warbler *Abroscopus schisticeps*, Streaked Barwing *Actinodura souliei*, Chestnut-tailed Minla *Minla strigula*, Red-tailed Minla *M. ignotincta*, Golden-breasted Fulvetta *Alcippe chrysotis*, Rufous-winged Fulvetta *A. castaneiceps* and Stripe-throated Yuhina *Yuhina gularis*. The bird community of lower montane evergreen forest is quite distinct from that of upper montane evergreen forest in terms of composition, and is characterised by the presence of Grey Peacock Pheasant *Polyplectron bicalcaratum*, Red-headed Trogon *Harpactes erythrocephalus*, Rufous-faced Warbler *Abroscopus albogularis*, Grey Laughingthrush *Garrulax maesi*, Blue-winged Minla *Minla cyanouroptera*, Grey-cheeked Fulvetta *Alcippe morrisonia* and Grey-headed Parrotbill *Paradoxornis gularis*.

Apart from Fan Si Pan IBA, Van Ban IBA supports the largest number of biome-restricted species of any IBA in Vietnam, including two species for which there are recent confirmed records from no other IBA in the country: White-bellied Redstart *Hodgsonius phaenicuroides* and Rufous-chinned Laughingthrush *Garrulax rufogularis*. In addition, Van Ban IBA supports the globally vulnerable Beautiful Nuthatch *Sitta formosa*, and two of the four restricted-range species that define the Fan Si Pan and Northern Laos Secondary Area: Yellow-billed Nuthatch *S. solangiae* and Broad-billed Warbler *Tickellia hodgsoni*.

Species	IBA Criteria	Global Threat Status	Other IBAs	Notes
Beautiful Nuthatch <i>Sitta formosa</i>	A1, A3	VU	3	During surveys in 2001 and 2002, single individuals were seen in mixed feeding flocks in montane evergreen forest between 1,050 and 2,350 m asl ^{1,2} .
Yellow-billed Nuthatch <i>Sitta solangiae</i>	A1, A2	NT	11	During surveys between 2001 and 2002, the species was occasionally recorded in lower montane evergreen forest between 1,000 and 1,800 m asl ^{1,2} .
Broad-billed Warbler <i>Tickellia hodgsoni</i>	A2		2	The species was recorded on two occasions at 2,000 m asl in November 2000 ³ .

Biome Restricted Species: The site qualifies under criterion A3 because it supports 20 species restricted to the Sino-Himalayan Temperate Forests (Biome 07) and 58 species restricted to the Sino-Himalayan Subtropical Forests (Biome 08). See Appendix 4 for details.

Secondary Criteria

Species	Status	Species	Status
Assamese Macaque <i>Macaca assamensis</i> ³	VU	[Impressed Tortoise <i>Manouria impressa</i>] ⁴	VU
[Rhesus Macaque <i>M. mulatta</i>] ³	DD	Chinese Softshell Turtle <i>Pelodiscus sinensis</i> ⁴	VU
Stump-tailed Macaque <i>M. arctoides</i> ³	VU	<i>Fokienia hodginsii</i> ^{1,3,5,6}	NT
Black Gibbon <i>Nomascus concolor</i> ³	EN	<i>Amentotaxus argotaenia</i> ⁷	VU
[Big-headed Turtle <i>Platysternon megacephalum</i>] ⁴	EN	<i>Taiwania cryptomerioides</i> ^{5,6,7}	VU
Black-breasted Leaf Turtle <i>Geoemyda spengleri</i> ⁴	EN	Southern Serow <i>Naemorhedus sumatraensis</i> ³	VU
[Keel Box Turtle <i>Pyxidea mouhotii</i>] ⁴	EN		

Notes: [] = unconfirmed record.

Threats to Biodiversity

One of the major threats to biodiversity at Van Ban IBA is habitat degradation as a result of selective extraction of timber species, most notably *Fokienia hodginsii*. Recently, the government of Vietnam passed a decision permitting the extraction of over 20,000 m³ of *F. hodginsii* timber from the Hoang Lien mountains. Although this decision specifies that only dead *F. hodginsii* may be harvested, in reality, effective enforcement of this condition will undoubtedly prove to be impossible. As a large part of the IBA is currently under the management of state forest enterprises, this decision represents a potentially serious threat to areas of primary forest that have hitherto only been subjected to small-scale timber extraction by local people.

Threat	Severity
Agricultural intensification / expansion	●
Commercial timber extraction	● ●
Fire	● ●
Forest grazing	●
Hunting	● ● ●
Selective logging / cutting	● ●

Other major threats include habitat loss, through clearance of forest for agriculture and associated forest fires, and hunting. Hunting is a serious threat to all populations of large mammals at the IBA, particularly the remnant population of Black Gibbon *Nomascus concolor*.

Conservation Actions

- Under the project *Community-based Conservation of the Hoang Lien Mountains Ecosystem*, Fauna & Flora International (FFI), in collaboration with Lao Cai Provincial Forest Protection Department, are currently carrying out an integrated programme of conservation interventions at Van Ban IBA, including biological and human ecological surveys, community-based initiatives, environmental awareness raising, and promotion of the establishment of a nature reserve. In 2003, FFI will expand its Hoang Lien project to incorporate poverty alleviation interventions focusing on community-based natural resources management, together with further protected area development and landscape-scale approaches, culminating in the gazettement of a Man and the Biosphere Reserve.

Recommendations

- The feasibility of establishing a nature reserve at Van Ban IBA should be assessed, and, if appropriate, a nature reserve management board should be established.
- Enforcement of forest management regulations, particularly controls on hunting and illegal timber extraction should be strengthened, and combined with activities to raise environmental awareness among local communities to help combat trade in wildlife.
- Forest management at the IBA should focus on maintaining existing forest cover, particularly at elevations below 900 m asl¹. To this end, all forms of commercial timber extraction (particularly extraction of *Fokienia hodginsii*) should be prohibited at the IBA, and strict controls should be placed on clearance of forest for agriculture.
- A programme of community-based fire prevention, including awareness raising activities and establishment of village fire-watch groups, should be initiated.
- Further survey work should be conducted to ascertain the distribution and status of key species at the site and determine the habitat requirements of threatened species such as Beautiful Nuthatch, Ward's Trogon *Harpactes wardi* and Red-winged Laughingthrush *Garrulax formosus*, to provide a basis for targeted conservation actions and forest protection activities¹.

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