



# Ramsar Information Sheet

Published on 16 October 2018

## Viet Nam

### Van Long Wetland Nature Reserve



Designation date	10 February 2017
Site number	2360
Coordinates	20°23'35"N 105°51'10"E
Area	2 736,00 ha

## Color codes

Fields back-shaded in light blue relate to data and information required only for RIS updates.

Note that some fields concerning aspects of Part 3, the Ecological Character Description of the RIS (tinted in purple), are not expected to be completed as part of a standard RIS, but are included for completeness so as to provide the requested consistency between the RIS and the format of a 'full' Ecological Character Description, as adopted in Resolution X.15 (2008). If a Contracting Party does have information available that is relevant to these fields (for example from a national format Ecological Character Description) it may, if it wishes to, include information in these additional fields.

## 1 - Summary

### Summary

Van Long Wetland Nature Reserve is a wetland comprised of rivers and a shallow lake with large amounts of submerged vegetation. The wetland area is centred on a block of limestone karst that rises abruptly from the flat coastal plain of the northern Vietnam. It is located within the Gia Vien district of Ninh Binh Province.

The wetland is one of the rarest intact lowland inland wetlands remaining in the Red River Delta, Vietnam. It is encompassed by a limestone hill system that is famous for providing key habitats for the largest population of the critically endangered Delacour's Langur (*Tachypithecus delacouri*) and other fauna and flora species. It is also an important refuge and breeding ground for a number of aquatic species, and a staging site for waterbird species. It provides important ecosystem services for the surrounding communities in term of aquatic resources, water regulation and scenic beauties for development of ecotourism and recreation. The lake plays a key role for water storage and drainage to support agricultural production around the nature reserve. The site is also a famous tourism destination that helps in providing important source of income for local communities.

## 2 - Data & location

### 2.1 - Formal data

#### 2.1.1 - Name and address of the compiler of this RIS

##### Compiler 1

Name	Tran Ngoc Cuong
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#### 2.1.2 - Period of collection of data and information used to compile the RIS

From year	2016
To year	2017

#### 2.1.3 - Name of the Ramsar Site

Official name (in English, French or Spanish)	Van Long Wetland Nature Reserve
Unofficial name (optional)	Khu Bao ton Thien nhien Dat ngap nuoc Van Long

## 2.2 - Site location

### 2.2.1 - Defining the Site boundaries

b) Digital map/image  
<1 file(s) uploaded>

Former maps	0
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#### Boundaries description

The boundary of the site is the same as the Van Long Wetland Nature Reserve. Van Long Ramsar Site is situated in the administrative boundaries of 7 communes of Gia Vien District, Ninh Binh Province. Border of the site was identified by Boi River in Nho Quan District in the west and the Dam Cut dike (part from Gia Hung Commune to Gia Thanh Commune of Gia Vien District) in the south.

### 2.2.2 - General location

a) In which large administrative region does the site lie?	Ninh Binh
b) What is the nearest town or population centre?	Me Town of Gia Vien District, Ninh Binh Province

### 2.2.3 - For wetlands on national boundaries only

- a) Does the wetland extend onto the territory of one or more other countries? Yes  No
- b) Is the site adjacent to another designated Ramsar Site on the territory of another Contracting Party? Yes  No

### 2.2.4 - Area of the Site

Official area, in hectares (ha):	2736
Area, in hectares (ha) as calculated from GIS boundaries	2730.48

### 2.2.5 - Biogeography

Biogeographic regions

Regionalisation scheme(s)	Biogeographic region
WWF Terrestrial Ecoregions	Northern Vietnam Lowland Rain Forests [IM0141]

### 3 - Why is the Site important?

#### 3.1 - Ramsar Criteria and their justification

- Criterion 1: Representative, rare or unique natural or near-natural wetland types

Hydrological services provided

The Site serves as a natural reservoir that receives water from Day and Boi River in the rainy season and releases back to these rivers in the dry season. It therefore plays an important role to regulate hydrological regimes in the biogeographic region. Water from the wetlands here also contributes to the recharge of the local and regional aquifers benefit in the surrounding rice and other agricultural lands and communities.

Other ecosystem services provided

Van Long Ramsar Site is located in a highly populated region and surrounded by a large area of intensified agricultural lands. More than 47,000 people live in the buffer zones of the Nature Reserve, and c. 2,500 people are still living inside the core zone. Agriculture is most dominant livelihood activity in the area, therefore, Ecotourism in Van Long attracts a large number of both domestic and international visitors and became another important source of income for local communities. In addition, Van Long is an important fish sanctuary, where many aquatic species use as refuge and breeding site that provide an important resource for the surrounding communities.

Other reasons

Van Long Ramsar Site is one of extremely rare lowland permanent freshwater lake systems remain in the Red River Delta. The lake, together with other lowland inland marsh/swamp ecosystems that are around the karst and other subterranean hydrological systems, forms a complex of wetland habitats that is very rare and almost cannot find anywhere else in the Indochina sub continent. As the largest area of remaining lowland wetland systems in the northern Vietnam, Van Long provides important habitats for a diversity of water birds and indigenous fish species. In addition, the limestone mountain in Van Long is the most important habitat for Delacour's Langur (one of world 25 most endangered primate species). Van Long is home to more than a half of global population of this species and the only site where this species can be observed in the wild.

- Criterion 2 : Rare species and threatened ecological communities

- Criterion 3 : Biological diversity

Justification

To date, there are 722 vascular plant, 38 mammal, 102 bird, 28 reptile, 10 amphibian, and 56 fish species recorded for the Site.

Van Long is home to c. 50% of the global population of Delacour's Langur. This species is endemic to Vietnam, where it is found only in an area around 5,000 km<sup>2</sup> in the provinces of Ninh Binh, Ha Nam, Hoa Binh, and Thanh Hoa (Nadler, T.& Brockman, D. 2014). Van Long is the only place where this species can be easily observed in the wild.

Of indigenous fish species recorded for Van Long, the bitterling species *Acheilognathus polyspinus* was considered by Kottelat (2011) as an endemic to north Vietnam. However, it has been assessed as Data Deficient due to a lack of information regarding species' taxonomic status. In addition, there are two newly described snakehead species from specimens collected in this area, namely *Channa hoaluensis* and *Channa ninhbinhensis*, also endemic to Vietnam (Nguyen Van Hao, 2011).

Limestone habitats in Van Long Ramsar Site also inhabit some restricted ranged plant species. For example, all three globally threatened plant species recorded here are endemic to north Vietnam and south China, and of them, the *Amorphophallus interruptus* has an extremely small extent of occurrence and area of occupancy (both about 4 km<sup>2</sup>) (IUCN 2016).

- Criterion 7 : Significant and representative fish

Justification

To date, there are 56 fish species recorded for Van Long Nature Reserve (Nguyen Trung Tang (eds.) 2004, and Nguyen Lan Hung Son (eds.) 2011). Of them, 7 species are introduced. Among indigenous species, 19 are only recorded for south China, north Vietnam and north Laos (*Coilia grayii*, *Salanx chinensis*, *Osteochilus salsburyi*, *Bangana lemasoni*, *Puntius semifasciolatus*, *Rasbora steineri*, *Metzia lineata*, *Acheilognathus polyspinus*, *Acheilognathus tonkinensis*, *Metzia formosae*, *Schistura fasciolata*, *Schistura caudofurca*, *Pterocryptis cochinchinensis*, *Pseudobagrus kyphus*, *Oryzias latipes*, *Channa ninhbinhensis*, *Macropodus opercularis*, *Coreoperca whiteheadi*, and *Tephrinectes sinensis*), 4 species are only found in IndoBurma region (*Cirrhinus molitorella*, *Puntius brevis*, *Mastacembelus armatus*, and *Trichopodus trichopterus*), and 5 species are only found in east Asia (*Chanodichthys erythropterus*, *Squaliobarbus curriculus*, *Tachysurus fulvidraco*, *Channa maculata*, and *Rhinogobius giurinus*). The fish fauna of Van Long is therefore typical for the river ecosystems in Red River delta, which is a combination of South-China, IndoBurma and East Asia biogeographical elements.

Most of fish species found in Van Long are of high economical value. Especially those of Cyprinidae family such as *Cyprinus carpio*, *Carassius auratus*, *Osteochilus salsburyi*, *Bangana lemasoni*, *Cirrhinus molitorella*, *Cirrhinus cirrhosus*, *Cirrhinus mrigala*, *Onychostoma elongatum*, *Labeo rohita*, *Puntius semifasciolatus*, *Puntius brevis*, or *Mylopharyngodon piceus*, Clariidae: *Clarias fuscus*, and Siluridae: *Silurus asotus* and *Pterocryptis cochinchinensis*. Although the yield of highest valuable species seemed reducing in recent surveys, Van Long, as the only inland wetland protected area in the Red River Delta, is still provide important refuge and breeding habitat for a number of species that are important for local livelihoods.

Criterion 8 : Fish spawning grounds, etc.

Justification

Most of fish species recorded for Van Long are typical river species (or white fish) of Cypriniformes and Perciformes orders. Together with some catfish species, many of those reproduce in the course of tributaries of Red River system in the beginning of rainy season, some even can migrate and breed in upstream areas such as *Salanx chinensis*, *Cyprinus carpio*, *Mylopharyngodon piceus*, and *Hypophthalmichthys molitrix*. Their eggs or fingerlings then drift along the current to the wetlands, so that their fingerlings can find food right after birth. Van Long wetland links with hydrological systems of Day River and provides habitat for fingerlings of many fish species. Research from 1999 to 2002 of Hanoi University of Science and Technology recorded fingerlings of many white fish species in Van Long in high water season (Vu Trung Tang (eds.) 2004).

In addition, Van Long support an abundant phytoplankton flora with 282 species and subspecies (Vu Trung Tang (eds.) 2004) and more than 60 species of aquatic crustaceans and molluscs (Nguyen Lan Hung son (eds.) 2011), and many other zooplankton, zoo-benthos and phytol-benthos species that are not yet fully studied. Those aquatic invertebrates, benthos and planktons are concentrated and well developed in the submerged areas of Van Long and provide most important forage source for fish species.

### 3.2 - Plant species whose presence relates to the international importance of the site

Scientific name	Common name	Criterion 2	Criterion 3	Criterion 4	IUCN Red List	CITES Appendix I	Other status	Justification
<i>Aglaia spectabilis</i> 		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	VAST (2007): VU	
<i>Amorphophallus interruptus</i> 		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	CR 	<input type="checkbox"/>		Extremely restrict-ranged in Vietnam. Area of occupation is less than 4 km <sup>2</sup>
<i>Aristolochia indica</i> 		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	VAST (2007): VU	
<i>Burretiodendron hsienmu</i> 		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	VU 	<input type="checkbox"/>	VAST (2007): EN	Restrict-ranged, N Vietnam, S China
<i>Callerya speciosa</i> 	Showy Millettia	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	VAST (2007): VU	
<i>Castanopsis ferox</i> 		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	VAST (2007): VU	
<i>Chukrasia tabularis</i> 		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	VAST (2007): VU	
<i>Cycas revoluta</i> 		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LC 	<input type="checkbox"/>	VAST (2007): VU	
<i>Dalbergia tonkinensis</i> 		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	VU 	<input type="checkbox"/>	VAST (2007): VU	Restrict-ranged, N Vietnam, S China
<i>Drynaria fortunei</i> 		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	VAST (2007): EN	
<i>Illicium difengpium</i> 		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	VAST (2007): VU	
<i>Isoetes sinensis</i> 		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	CR 	<input type="checkbox"/>		
<i>Knema tonkinensis</i> 		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	VU 	<input type="checkbox"/>		Restrict-ranged, N Vietnam, N Laos
<i>Melientha suavis</i> 		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	VAST (2007): VU	
<i>Podophyllum difforme</i> 		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	VAST (2007): EN	
<i>Psychrax dicoccos</i> 		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VU 	<input type="checkbox"/>	VAST (2007): VU	
<i>Stemona kerrii</i> 		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	VAST (2007): VU	
<i>Strychnos umbellata</i> 		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	VAST (2007): VU	

Viet Nam Red Data Book of endangered plants and animals released by the Viet Nam Academy of Science and Technology (VAST) and IUCN.

Few other plant species are listed in the Appendix II of CITES (e.g. 2 cycad and 4 orchid species)

### 3.3 - Animal species whose presence relates to the international importance of the site

Phylum	Scientific name	Common name	Species qualifies under criterion				Species contributes under criterion				Pop. Size	Period of pop. Est.	% occurrence 1)	IUCN Red List	CITES Appendix I	CMS Appendix I	Other Status	Justification
			2	4	6	9	3	5	7	8								
<b>Birds</b>																		
CHORDATA/ AVES	<i>Emberiza aureola</i> 	Yellow-breasted Bunting	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				CR 	<input type="checkbox"/>	<input checked="" type="checkbox"/>			
<b>Fish, Mollusc and Crustacea</b>																		

Phylum	Scientific name	Common name	Species qualifies under criterion				Species contributes under criterion				Pop. Size	Period of pop. Est.	% occurrence 1)	IUCN Red List	GITES Appendix I	CMS Appendix I	Other Status	Justification
			2	4	6	9	3	5	7	8								
CHORDATA/ ACTINOPTERYGII	<i>Acheilognathus tonkinensis</i>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>					<input type="checkbox"/>	<input type="checkbox"/>		Crit 7:Significant Proportion
CHORDATA/ ACTINOPTERYGII	<i>Bangana lemassoni</i>		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					<input type="checkbox"/>	<input type="checkbox"/>	VAST (2007): VU	
CHORDATA/ ACTINOPTERYGII	<i>Channa hoaluensis</i>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					<input type="checkbox"/>	<input type="checkbox"/>		Endemic: N. Vietnam
CHORDATA/ ACTINOPTERYGII	<i>Channa maculata</i>	Snakehead; Blotched snakehead; Blotched snakehead	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC 	<input type="checkbox"/>	<input type="checkbox"/>	VAST (2007): EN	
CHORDATA/ ACTINOPTERYGII	<i>Channa ninhbinhensis</i>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>					<input type="checkbox"/>	<input type="checkbox"/>		Crit 7:Significant Proportion Endemic: N. Vietnam
CHORDATA/ ACTINOPTERYGII	<i>Chanodichthys erythropterus</i>	Common skygazer; Skygazer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				LC 	<input type="checkbox"/>	<input type="checkbox"/>		Crit 7:Significant Proportion
CHORDATA/ ACTINOPTERYGII	<i>Coilia grayii</i>	Gray's grenadier anchovy; Pointed-tailed anchovy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				LC 	<input type="checkbox"/>	<input type="checkbox"/>		Crit 7:Significant Proportion
CHORDATA/ ACTINOPTERYGII	<i>Cyprinus carpio</i>	Amur carp	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				VU 	<input type="checkbox"/>	<input type="checkbox"/>		Crit 7 & 8:Significant Proportion and spawning
CHORDATA/ ACTINOPTERYGII	<i>Macropodus opercularis</i>	Fork tailed paradisefish	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				LC 	<input type="checkbox"/>	<input type="checkbox"/>		Crit 7:Significant Proportion
CHORDATA/ ACTINOPTERYGII	<i>Mastacembelus armatus</i>	Zig-zag eel; Zig-zag eel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				LC 	<input type="checkbox"/>	<input type="checkbox"/>		Crit 7:Significant Proportion
CHORDATA/ ACTINOPTERYGII	<i>Metzia formosae</i>	Taiwan lesser-bream	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				LC 	<input type="checkbox"/>	<input type="checkbox"/>		Crit 7:Significant Proportion
CHORDATA/ ACTINOPTERYGII	<i>Metzia lineata</i>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				LC 	<input type="checkbox"/>	<input type="checkbox"/>		Crit 7:Significant Proportion
CHORDATA/ ACTINOPTERYGII	<i>Oryzias latipes</i>	Japanese rice fish	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>					<input type="checkbox"/>	<input type="checkbox"/>		Crit 7:Significant Proportion
CHORDATA/ ACTINOPTERYGII	<i>Osteochilus salisburyi</i>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				LC 	<input type="checkbox"/>	<input type="checkbox"/>		Crit 7:Significant Proportion
CHORDATA/ ACTINOPTERYGII	<i>Pterocryptis cochinchinensis</i>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				LC 	<input type="checkbox"/>	<input type="checkbox"/>		Crit 7:Significant Proportion
CHORDATA/ ACTINOPTERYGII	<i>Puntius brevis</i>	Swamp barb	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				LC 	<input type="checkbox"/>	<input type="checkbox"/>		Crit 7:Significant Proportion
CHORDATA/ ACTINOPTERYGII	<i>Rasbora steineri</i>	Gold line rasbora	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				LC 	<input type="checkbox"/>	<input type="checkbox"/>		Crit 7:Significant Proportion
CHORDATA/ ACTINOPTERYGII	<i>Rhinogobius giurinus</i>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				LC 	<input type="checkbox"/>	<input type="checkbox"/>		Crit 7:Significant Proportion
CHORDATA/ ACTINOPTERYGII	<i>Salanx chinensis</i>	Chinese noodlefish; Chinese noodlefish; Chinese icefish	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>					<input type="checkbox"/>	<input type="checkbox"/>		Crit 7 & 8:Significant Proportion and spawning

Phylum	Scientific name	Common name	Species qualifies under criterion				Species contributes under criterion				Pop. Size	Period of pop. Est.	% occurrence 1)	IUCN Red List	GITES Appendix I	CMS Appendix I	Other Status	Justification
			2	4	6	9	3	5	7	8								
CHORDATA/ ACTINOPTERYGII	<i>Schistura caudofurca</i> 		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>			LC 	<input type="checkbox"/>	<input type="checkbox"/>		Crit 7:Significant Proportion
CHORDATA/ ACTINOPTERYGII	<i>Schistura fasciolata</i> 		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>	<input type="checkbox"/>		Crit 7:Significant Proportion
CHORDATA/ ACTINOPTERYGII	<i>Tachysurus fulvidraco</i> 	Banded catfish	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>			LC 	<input type="checkbox"/>	<input type="checkbox"/>		Crit 7:Significant Proportion
CHORDATA/ ACTINOPTERYGII	<i>Tephrinectes sinensis</i> 		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>	<input type="checkbox"/>		Crit 7:Significant Proportion
CHORDATA/ ACTINOPTERYGII	<i>Trichopodus trichopterus</i> 	Three spot gourami	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>			LC 	<input type="checkbox"/>	<input type="checkbox"/>		Crit 7:Significant Proportion
<b>Others</b>																		
CHORDATA/ MAMMALIA	<i>Arctictis binturong</i> 	Binturong	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			VU 	<input type="checkbox"/>	<input type="checkbox"/>	VAST (2007): EN	
CHORDATA/ REPTILIA	<i>Bungarus fasciatus</i> 	Banded krait	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			LC 	<input type="checkbox"/>	<input type="checkbox"/>	VAST (2007): EN	
CHORDATA/ MAMMALIA	<i>Capricornis sumatraensis</i> 	serow	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			VU 	<input checked="" type="checkbox"/>	<input type="checkbox"/>	VAST (2007): EN	
CHORDATA/ MAMMALIA	<i>Chrotogale owstoni</i> 	Owston's Palm Civet	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			EN 	<input type="checkbox"/>	<input type="checkbox"/>	VAST (2007): VU	Annamite Range: Laos and Vietnam
CHORDATA/ REPTILIA	<i>Coelognathus radiatus</i> 	Copper-head trinket snake	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			LC 	<input type="checkbox"/>	<input type="checkbox"/>	VAST (2007): VU	
CHORDATA/ REPTILIA	<i>Cuora mouhotii</i> 	Keeled Box Turtle	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			EN 	<input type="checkbox"/>	<input type="checkbox"/>		
CHORDATA/ MAMMALIA	<i>Cynopterus brachyotis</i> 	Lesser Short-nosed Fruit Bat	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			LC 	<input type="checkbox"/>	<input type="checkbox"/>	VAST (2007): VU	
CHORDATA/ REPTILIA	<i>Gekko gekko</i> 	Tokay gecko	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>	<input type="checkbox"/>	VAST (2007): VU	
CHORDATA/ MAMMALIA	<i>Manis javanica</i> 	Sunda Pangolin	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			CR 	<input checked="" type="checkbox"/>	<input type="checkbox"/>	VAST (2007): EN	
CHORDATA/ REPTILIA	<i>Mauremys mutica</i> 	Yellow Pond Turtle	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			EN 	<input type="checkbox"/>	<input type="checkbox"/>		
CHORDATA/ MAMMALIA	<i>Neofelis nebulosa</i> 	Clouded Leopard	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			VU 	<input checked="" type="checkbox"/>	<input type="checkbox"/>	VAST (2007): EN	
CHORDATA/ MAMMALIA	<i>Nycticebus bengalensis</i> 	Bengal Slow Loris	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			VU 	<input checked="" type="checkbox"/>	<input type="checkbox"/>	VAST (2007): VU	
CHORDATA/ REPTILIA	<i>Ophiophagus hannah</i> 	King Cobra	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			VU 	<input type="checkbox"/>	<input type="checkbox"/>	VAST (2007): CR	
CHORDATA/ REPTILIA	<i>Orthriophis moellendorffi</i> 	Moellendorff's trinket snake	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>	<input type="checkbox"/>	VAST (2007): VU	
CHORDATA/ REPTILIA	<i>Palearia steindachneri</i> 	Wattle-necked Softshell Turtle	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			EN 	<input type="checkbox"/>	<input type="checkbox"/>	VAST (2007): VU	

Phylum	Scientific name	Common name	Species qualifies under criterion				Species contributes under criterion				Pop. Size	Period of pop. Est.	% occurrence <sup>1)</sup>	IUCN Red List	GITES Appendix I	CMS Appendix I	Other Status	Justification
			2	4	6	9	3	5	7	8								
CHORDATA/ MAMMALIA	<i>Panthera pardus</i>	Leopard	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				VU 	<input checked="" type="checkbox"/>	<input type="checkbox"/>	VAST (2007): CR	
CHORDATA/ REPTILIA	<i>Pelodiscus sinensis</i>	Chinese Softshell Turtle	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				VU 	<input type="checkbox"/>	<input type="checkbox"/>		
CHORDATA/ REPTILIA	<i>Ptyas korros</i>	Chinese ratsnake	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					<input type="checkbox"/>	<input type="checkbox"/>	VAST (2007): EN	
CHORDATA/ REPTILIA	<i>Ptyas mucosa</i>	Indian ratsnake	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					<input type="checkbox"/>	<input type="checkbox"/>	VAST (2007): EN	
CHORDATA/ REPTILIA	<i>Python molurus</i>	Burmese Python	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				VU 	<input type="checkbox"/>	<input type="checkbox"/>	VAST (2007): CR	
CHORDATA/ MAMMALIA	<i>Trachypithecus delacouri</i>	Delacour's Langur	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	150	2015	50	CR 	<input type="checkbox"/>	<input type="checkbox"/>	VAST (2007): CR	Endemic, Vietnam
CHORDATA/ MAMMALIA	<i>Ursus thibetanus</i>	Asian Black Bear	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				VU 	<input checked="" type="checkbox"/>	<input type="checkbox"/>	VAST (2007): VU	N. Vietnam, N. Laos and S. China
CHORDATA/ REPTILIA	<i>Varanus salvator</i>	Common water monitor	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC 	<input type="checkbox"/>	<input type="checkbox"/>	VAST (2007): EN	

1) Percentage of the total biogeographic population at the site

Viet Nam Red Data Book of endangered plants and animals released by the Viet Nam Academy of Science and Technology (VAST) and IUCN. Aside from above-listed globally threatened species, 16 other mammal, bird and fish species recorded for Van Long are also listed by IUCN (2016) as NT and DD.

### 3.4 - Ecological communities whose presence relates to the international importance of the site

Name of ecological community	Community qualifies under Criterion 2?	Description	Justification
Inundated grassland	<input type="checkbox"/>	Plant meadows dominated by Phragmites spp., Typha angustifolia, and sedge Cyperaceae Gen. spp.	Small areas in Van Long, however, they provide important habitat for birds. Also very rare in the Red River Delta.
Aquatic plant communities	<input type="checkbox"/>	Dominated by floating plants such as Myriophyllum spicatum, Hydrocera triflora, Utricularia aurea, and Iodes cirrhosa.	Very rare, as most of this vegetation type was removed from Red River Delta.

Optional text box to provide further information

Name of ecological community: Limestone vegetation

Description: Dominated by Ficus spp., Strepbulus spp., Randia tomentosa, Litsea monopetala, Nephelium meliferum. On the ridges and summits, often found Pandanus spp., Dracaena spp., Phyllanthus amarus etc. and this vegetation is well regeneration since establishment of nature reserve.

Justification: Although severely degraded by human extraction in the past leading to the low number of large trees in the community, however, thanks for the intensive protection efforts in last 20 years, this vegetation is now well rehabilitated. In the context of most lowland limestone ecosystems in Asia are being heavily exploited for development, Van Long is one of very few places where this vegetation type can be found.

## 4 - What is the Site like? (Ecological character description)

### 4.1 - Ecological character

Van Long Ramsar Site is a large freshwater lake located in the northernmost tip of Pu Luong-Cuc Phuong Limestone Mountain Range. This mountain range is running east-west in the north Central Vietnam and located in the border of Ninh Binh, Hoa Binh and Thanh Hoa provinces. This limestone area supports some of the highest biodiversity value areas in northern Vietnam and was included in the Lowland Annamite Endemic Bird Area (EBA). The main topographical features of Van Long include inland wetlands and outcropped limestone hills running northwest-southeast. There are three river systems that are influencing the water regime of the Site - Day, Boi and Hoang Long. Hydrological regimes of the Site are still mostly influenced by local rainfall with the rainy season from April to October. In August and September, water raised over the drainage capacity of rivers and streams causing flood that threatens agricultural production but provide a favourable condition for fish development and reproduction.

### 4.2 - What wetland type(s) are in the site?

#### Inland wetlands

Wetland types (code and name)	Local name	Ranking of extent (1: greatest - 4: least)	Area (ha) of wetland type	Justification of Criterion 1
Fresh water > Flowing water >> L: Permanent inland deltas		3		
Fresh water > Flowing water >> M: Permanent rivers/ streams/ creeks		2		
Fresh water > Flowing water >> N: Seasonal/ intermittent/ irregular rivers/ streams/ creeks		3		
Fresh water > Lakes and pools >> O: Permanent freshwater lakes		0	8	
Fresh water > Marshes on inorganic soils >> Tp: Permanent freshwater marshes/ pools		1		Rare
Fresh, saline, brackish or alkaline water > Subterranean >> Zk(b): Karst and other subterranean hydrological systems		4		Unique

#### Human-made wetlands

Wetland types (code and name)	Local name	Ranking of extent (1: greatest - 4: least)	Area (ha) of wetland type	Justification of Criterion 1
1: Aquaculture ponds		1		
2: Ponds		2		
3: Irrigated land		3		
4: Seasonally flooded agricultural land		4		

#### Other non-wetland habitat

Other non-wetland habitats within the site	Area (ha) if known
Limestone forest	2127.3
Grassland/scrubland in the valleys	100.53
Plantation	94.97

### 4.3 - Biological components

#### 4.3.1 - Plant species

##### Invasive alien plant species

Scientific name	Common name	Impacts
<i>Chromolaena odorata</i>	Siam weed	Potentially
<i>Eichhornia crassipes</i>	Water hyacinth	Potentially
<i>Lantana camara</i>	Big-sage	Potentially
<i>Mimosa diplotricha</i>	Giant Sensitive Plant	Actually (minor impacts)
<i>Mimosa pigra</i>	Giant sensitive tree	Actually (minor impacts)
<i>Nelumbo nucifera</i>	sacred lotus	Potentially

#### 4.3.2 - Animal species

##### Other noteworthy animal species

Phylum	Scientific name	Common name	Pop. size	Period of pop. est.	% occurrence	Position in range /endemism/other
CHORDATA/ACTINOPTERYGII	<i>Acheilognathus polyspinus</i>					
CHORDATA/AVES	<i>Alcedo hercules</i>	Blyth's Kingfisher				
CHORDATA/ACTINOPTERYGII	<i>Anabas testudineus</i>	Climbingperch				
CHORDATA/ACTINOPTERYGII	<i>Cirrhinus molitorella</i>	White lady carp				
CHORDATA/ACTINOPTERYGII	<i>Hypophthalmichthys molitrix</i>	Silver carp				
CHORDATA/ACTINOPTERYGII	<i>Hypophthalmichthys nobilis</i>	Bighead				
CHORDATA/MAMMALIA	<i>Lutra lutra</i>	European Otter				
CHORDATA/ACTINOPTERYGII	<i>Mylopharyngodon piceus</i>	Black amur;Black amur;Snail carp;Chinese roach				
CHORDATA/ACTINOPTERYGII	<i>Onychostoma elongatum</i>					
CHORDATA/ACTINOPTERYGII	<i>Pseudobagrus kyphus</i>	Bagrid catfish				
CHORDATA/MAMMALIA	<i>Ratufa bicolor</i>	Black Giant Squirrel				
CHORDATA/ACTINOPTERYGII	<i>Rhodeus ocellatus</i>	Rosy bitterling				
CHORDATA/ACTINOPTERYGII	<i>Squaliobarbus curriculus</i>	Barbel chub;Barbel chub				

Invasive alien animal species

Phylum	Scientific name	Common name	Impacts
CHORDATA/ACTINOPTERYGII	<i>Hypostomus plecostomus</i>	Suckermouth catfish	Actually (minor impacts)
MOLLUSCA/GASTROPODA	<i>Pomacea canaliculata</i>	Apple Snail	Actually (minor impacts)

### 4.4 - Physical components

#### 4.4.1 - Climate

Climatic region	Subregion
A: Tropical humid climate	Am: Tropical monsoonal (Short dry season; heavy monsoonal rains in other months)

#### 4.4.2 - Geomorphic setting

a) Minimum elevation above sea level (in metres)

a) Maximum elevation above sea level (in metres)

- Entire river basin
- Upper part of river basin
- Middle part of river basin
- Lower part of river basin
- More than one river basin
- Not in river basin
- Coastal

Please name the river basin or basins. If the site lies in a sub-basin, please also name the larger river basin. For a coastal/marine site, please name the sea or ocean.

Day River basin and Boi River basin. Day is a distributary of the Red River, draining into the Gulf of Tonkin. Boi is one of tributaries of the Day (others are Nhue, Hoang Long, and Vac Rivers).

#### 4.4.3 - Soil

- Mneral
- Organic
- No available information

Are soil types subject to change as a result of changing hydrological conditions (e.g., increased salinity or acidification)? Yes  No

Please provide further information on the soil (optional)

Soft clay: 567 ha or 18,3% of total area, found mainly in Cut, Gia Van, Gia Hoa swamps, mountain foots of Co Tien and Mot, and Vuon Thi village.  
 Haplic regosols and river/stream fluvisols: 236 ha or 7,6% of total area, found mainly along riverbanks of Day, Boi Rivers and Han and Ngoc Lam Streams.  
 Typical ferrasols on low hills: 56 ha or 1,8% of total area. They can be divided into 2 groups: i) Rhodi-Haplic Ferrasols (Fv) found mainly in the limestone mountains in north and east of the Site, and ii) Xanthi-Haplic Ferrasols (Fq): found mainly in Ngo, Gong Vo and Han hills.  
 Rock: 2,127.3 ha or 71,1% of total area, located on north and northeast parts of the Site.

#### 4.4.4 - Water regime

Water permanence

Presence?
Usually permanent water present

Source of water that maintains character of the site

Presence?	Predominant water source
Water inputs from rainfall	<input checked="" type="checkbox"/>
Water inputs from surface water	<input checked="" type="checkbox"/>
Water inputs from groundwater	<input type="checkbox"/>

Water destination

Presence?
To downstream catchment
Marine

Stability of water regime

Presence?
Water levels fluctuating (including tidal)

Please add any comments on the water regime and its determinants (if relevant). Use this box to explain sites with complex hydrology.

There are three river systems that are influencing the water regime of the Site - Day, Boi and Hoang Long River with many more smaller tributaries such as Lang and Canh Rivers. In addition, there are some small streams inside the Ramsar Site such as Cut and Tep Streams and a complex of karst subterranean hydrological systems also supply water for the Van Long Lake. Hydrological regimes of the Site are still mostly influenced by local rainfall with the rainy season from April to October. In August and September, water raised over the drainage capacity of rivers and streams causing flood that threatens agricultural production but provide a favour condition for fish development and reproduction.

4.4.5 - Sediment regime

- Significant erosion of sediments occurs on the site
- Significant accretion or deposition of sediments occurs on the site
- Significant transportation of sediments occurs on or through the site
- Sediment regime is highly variable, either seasonally or inter-annually
- Sediment regime unknown

4.4.6 - Water pH

- Acid (pH<5.5)
- Circumneutral (pH: 5.5-7.4)
- Alkaline (pH>7.4)
- Unknown

4.4.7 - Water salinity

- Fresh (<0.5 g/l)
- Mixohaline (brackish)/Mixosaline (0.5-30 g/l)
- Euhaline/Eusaline (30-40 g/l)
- Hyperhaline/Hypersaline (>40 g/l)
- Unknown

4.4.8 - Dissolved or suspended nutrients in water

- Eutrophic
- Mesotrophic
- Oligotrophic
- Dystrophic
- Unknown

4.4.9 - Features of the surrounding area which may affect the Site

Please describe whether, and if so how, the landscape and ecological characteristics in the area surrounding the Ramsar Site differ from the i) broadly similar  ii) significantly different  site itself.

- Surrounding area has greater urbanisation or development
- Surrounding area has higher human population density
- Surrounding area has more intensive agricultural use
- Surrounding area has significantly different land cover or habitat types

4.5 - Ecosystem services

4.5.1 - Ecosystem services/benefits

Provisioning Services

Ecosystem service	Examples	Importance/Extent/Significance
Food for humans	Sustenance for humans (e.g., fish, molluscs, grains)	Medium
Fresh water	Drinking water for humans and/or livestock	Medium
Fresh water	Water for irrigated agriculture	High
Fresh water	Water for industry	Low
Wetland non-food products	Timber	Low
Wetland non-food products	Fuel wood/fibre	Low
Wetland non-food products	Livestock fodder	Low
Genetic materials	Medicinal products	Medium
Genetic materials	Ornamental species (live and dead)	Low

Regulating Services

Ecosystem service	Examples	Importance/Extent/Significance
Maintenance of hydrological regimes	Groundwater recharge and discharge	High
Maintenance of hydrological regimes	Storage and delivery of water as part of water supply systems for agriculture and industry	High
Erosion protection	Soil, sediment and nutrient retention	Medium
Pollution control and detoxification	Water purification/waste treatment or dilution	High
Climate regulation	Local climate regulation/buffering of change	High
Climate regulation	Regulation of greenhouse gases, temperature, precipitation and other climatic processes	Medium
Biological control of pests and disease	Support of predators of agricultural pests (e.g., birds feeding on locusts)	Medium
Hazard reduction	Flood control, flood storage	High

Cultural Services

Ecosystem service	Examples	Importance/Extent/Significance
Recreation and tourism	Picnics, outings, touring	High
Recreation and tourism	Nature observation and nature-based tourism	High
Spiritual and inspirational	Inspiration	Low
Spiritual and inspirational	Cultural heritage (historical and archaeological)	Medium
Spiritual and inspirational	Contemporary cultural significance, including for arts and creative inspiration, and including existence values	Medium
Spiritual and inspirational	Spiritual and religious values	Medium
Spiritual and inspirational	Aesthetic and sense of place values	High
Scientific and educational	Educational activities and opportunities	not relevant for site
Scientific and educational	Important knowledge systems, importance for research (scientific reference area or site)	High
Scientific and educational	Long-term monitoring site	High
Scientific and educational	Major scientific study site	High

Supporting Services

Ecosystem service	Examples	Importance/Extent/Significance
Biodiversity	Supports a variety of all life forms including plants, animals and microorganisms, the genes they contain, and the ecosystems of which they form a part	High
Soil formation	Sediment retention	Medium
Soil formation	Accumulation of organic matter	High
Nutrient cycling	Storage, recycling, processing and acquisition of nutrients	High
Nutrient cycling	Carbon storage/sequestration	Medium
Pollination	Support for pollinators	High

Have studies or assessments been made of the economic valuation of ecosystem services provided by this Ramsar Site? Yes  No  Unknown

4.5.2 - Social and cultural values

- i) the site provides a model of wetland wise use, demonstrating the application of traditional knowledge and methods of management and use that maintain the ecological character of the wetland
- ii) the site has exceptional cultural traditions or records of former civilizations that have influenced the ecological character of the wetland
- iii) the ecological character of the wetland depends on its interaction with local communities or indigenous peoples

## RIS for Site no. 2360, Van Long Wetland Nature Reserve, Viet Nam

iv) relevant non-material values such as sacred sites are present and their existence is strongly linked with the maintenance of the ecological character of the wetland

<no data available>

### 4.6 - Ecological processes

<no data available>

## 5 - How is the Site managed? (Conservation and management)

### 5.1 - Land tenure and responsibilities (Managers)

#### 5.1.1 - Land tenure/ownership

##### Public ownership

Category	Within the Ramsar Site	In the surrounding area
Provincial/region/state government	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Local authority, municipality, (sub)district, etc.	<input type="checkbox"/>	<input checked="" type="checkbox"/>

##### Private ownership

Category	Within the Ramsar Site	In the surrounding area
Religious body/organization	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other types of private/individual owner(s)	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Provide further information on the land tenure / ownership regime (optional):

Following the Constitution of the Socialist Republic of Vietnam (2013), all lands are public properties, and uniformly managed by the State. Organizations and individuals are entitled to land assignment, land lease, and recognition of the land use right by the State. Land use right inside Van Long Ramsar Site under management of Ninh Binh Provincial People's Committee, other lands outside managed by district PCs. Land use rights to the housing/garden and agricultural lands are entitled to local households or private enterprises, pagodas/temples' land use rights belonging to religious organizations.

#### 5.1.2 - Management authority

Please list the local office / offices of any agency or organization responsible for managing the site:

Van Long Special-use Forest Management Board

Provide the name and title of the person or people with responsibility for the wetland:

Director: Mai Van Quyen

Postal address:

Tap Ninh Village, Gia Van Commune, Gia Vien District, Ninh Binh Province

E-mail address:

maiquyenlrb@gmail.com

## 5.2 - Ecological character threats and responses (Management)

### 5.2.1 - Factors (actual or likely) adversely affecting the Site's ecological character

#### Human settlements (non agricultural)

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Housing and urban areas	Low impact		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Commercial and industrial areas	High impact		<input type="checkbox"/>	<input checked="" type="checkbox"/>
Tourism and recreation areas	Low impact		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

#### Water regulation

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Water abstraction	Low impact		<input type="checkbox"/>	<input checked="" type="checkbox"/>
Dredging	Low impact		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Drainage	Medium impact		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

#### Agriculture and aquaculture

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Livestock farming and ranching	Low impact		<input type="checkbox"/>	<input checked="" type="checkbox"/>
Marine and freshwater aquaculture	Low impact		<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### Energy production and mining

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Mining and quarrying	Medium impact		<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### Transportation and service corridors

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Roads and railroads	Medium impact	Medium impact	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Utility and service lines (e.g., pipelines)		Low impact	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Shipping lanes	Low impact		<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Biological resource use

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Fishing and harvesting aquatic resources	Medium impact		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Hunting and collecting terrestrial animals	Medium impact		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Gathering terrestrial plants	Medium impact		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

## Human intrusions and disturbance

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Recreational and tourism activities	Medium impact		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
(Para)military activities		Low impact	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Natural system modifications

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Fire and fire suppression	Medium impact		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Dams and water management/use	Low impact		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

## Invasive and other problematic species and genes

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Invasive non-native/ alien species	Low impact		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Problematic native species		Low impact	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Introduced genetic material		Low impact	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

## Pollution

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Agricultural and forestry effluents	Medium impact		<input type="checkbox"/>	<input checked="" type="checkbox"/>
Garbage and solid waste	Low impact		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Air-borne pollutants	Low impact		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Excess heat, sound, light	Low impact		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Household sewage, urban waste water	Medium impact		<input type="checkbox"/>	<input checked="" type="checkbox"/>
Industrial and military effluents	Medium impact		<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Climate change and severe weather

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Storms and flooding	Low impact		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Please describe any other threats (optional):

Local managers ranked the severity of threats as follows:

1. Forest fires,
2. Unstable land-use status,
3. Habitats for threatened species, especially Delacour's Langur, degraded,
4. Unsustainable tourism development,
5. Pollution from industrial activities in surrounding areas, and
6. Illegal extraction of natural resources.

## 5.2.2 - Legal conservation status

## National legal designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
Special-use forest	Van Long Wetland Nature Reserve		whole

## 5.2.3 - IUCN protected areas categories (2008)

- Ia Strict Nature Reserve
- Ib Wilderness Area: protected area managed mainly for wilderness protection
- II National Park: protected area managed mainly for ecosystem protection and recreation
- III Natural Monument: protected area managed mainly for conservation of specific natural features
- IV Habitat/Species Management Area: protected area managed mainly for conservation through management intervention
- V Protected Landscape/Seascape: protected area managed mainly for landscape/seascape conservation and recreation
- VI Managed Resource Protected Area: protected area managed mainly for the sustainable use of natural ecosystems

### 5.2.4 - Key conservation measures

#### Legal protection

Measures	Status
Legal protection	Implemented

#### Habitat

Measures	Status
Habitat manipulation/enhancement	Partially implemented
Re-vegetation	Partially implemented
Soil management	Partially implemented
Faunal corridors/passage	Partially implemented

#### Species

Measures	Status
Threatened/rare species management programmes	Partially implemented
Control of invasive alien plants	Proposed
Control of invasive alien animals	Proposed

#### Human Activities

Measures	Status
Communication, education, and participation and awareness activities	Partially implemented
Research	Proposed
Management of water abstraction/takes	Proposed
Regulation/management of wastes	Proposed
Livestock management/exclusion (excluding fisheries)	Partially implemented
Harvest controls/poaching enforcement	Partially implemented
Regulation/management of recreational activities	Proposed

### 5.2.5 - Management planning

Is there a site-specific management plan for the site? No

Has a management effectiveness assessment been undertaken for the site? Yes  No

If the site is a formal transboundary site as indicated in section Data and location > Site location, are there shared management planning processes with another Contracting Party? Yes  No

### 5.2.6 - Planning for restoration

Is there a site-specific restoration plan? Please select a value

### 5.2.7 - Monitoring implemented or proposed

Monitoring	Status
Water regime monitoring	Proposed
Water quality	Proposed
Plant community	Implemented
Animal species (please specify)	Implemented
Birds	Proposed

## 6 - Additional material

### 6.1 - Additional reports and documents

#### 6.1.1 - Bibliographical references

Anon. (2010) Report of a biodiversity inventory of Van Long Wetland Nature Reserve. Hanoi: Faculty of Biology, University of Teachers, Hanoi.  
IUCN (2016) The IUCN Red List of Threatened Species. Version 2015-4. . Downloaded on 18 March 2016  
Nadler T. & Brockman D. (eds.) (2014), Primates of Vietnam. Endangered Primate Rescue Center, Cuc Phuong National Park.  
Ninh Binh FPD (2011). A management operational plan for Van Long Wetland Nature Reserve period 2011-2015.  
Nguyen Lan Hung Son (2011). Wetland Biodiversity: Van Long Wetland Nature Reserve. Hanoi Uni. Teachers Press House, Hanoi: 2011.  
Nguyen Van Hao, 2011. Two new species from Chana Genus (Chanidae, Perciformes) discovered in Ninh Binh, Viet Nam. Bio. Jour. 33 (4), 8-17 pp.  
VAST (2007) Red Databook of Vietnam. Nat. Sce. & Tech. Publ. Hous., Hanoi: 2007.  
Vu Trung Tang (eds.) (2004), Van Long Wetlands: Biodiversity, exploitation and management for sustainable development. Project Report to Ministry of Science and Technology. Agr. Publ. Hous., Hanoi: 2004.

#### 6.1.2 - Additional reports and documents

i. taxonomic lists of plant and animal species occurring in the site (see section 4.3)

<no file available>

ii. a detailed Ecological Character Description (ECD) (in a national format)

<no file available>

iii. a description of the site in a national or regional wetland inventory

<no file available>

iv. relevant Article 3.2 reports

<no file available>

v. site management plan

<no file available>

vi. other published literature

<no file available>

<no data available>

#### 6.1.3 - Photograph(s) of the Site

Please provide at least one photograph of the site:



Van Long Wetland Nature Reserve ( Nguyen Duc Tu, 23-02-2008 )

#### 6.1.4 - Designation letter and related data

Designation letter

<1 file(s) uploaded>

Date of Designation