# 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

The Nagi Bird Sanctuary is in the Jamui district of Bihar and lies between N 24.49' and E 86.23'. The Site is essentially a reservoir which was built on the Nagi River for water storage during rainy season and to sustain water availability during dry seasons for irrigation. It is surrounded by undulating landscape that is composed of barren and agricultural fields interspersed with rocky hillocks. Water from the Site is supplied to about 4,000 hectares of agricultural lands lying downstream via canals. Since the construction of the dam, the reservoir now features near-natural ecological characteristics and provides important habitats to various migratory and resident birds, fishes and other aquatic plants and animals. The Site is an important wintering ground for several bird species migrating along the Central Asian Flyway. Approximately 1,600 individuals of bar-headed goose (Anser indicus) have been recorded from Nagi and nearby Nakti reservoir (another Wetland of International Importance), which amounts to over 1.6% of its total flyway population. Besides bar-headed goose, large congregations of grey-lag goose (Anser anser), red-crested pochard (Netta rufina), common pochard (Aytha ferina) and northern pintail (Anas acuta) have also been recorded. Endangered species like black bellied term (Sterna acuticauda) and other threatened species such as lesser adjutant stork (Leptoptilos javanicus), river term (Sterna aurantia), painted stork (Mycteria leucocephala), ferruginous duck (Aythya nyroca), darter (Anhinga melanogaster) and black-headed ibis (Threskiornis melanocephalus) also inhabit the Site. Due to the high avian diversity, the Site has also been recognized as one of the Important Bird Areas by Birdlife International. The Site also provides breeding and spawning grounds to several fish species.

# 2 - Data & location

# 2.1 - Formal data

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

#### Responsible compiler

Institution/agency Divisional Forest Officer, Jamui Forest Division

Postal address Divisional Forest Office, Ashok Town Hall Road, Near Collectrate, Jamui, PIN CODE-811307

## National Ramsar Administrative Authority

amsa											
I	Institution/agency	Ministry of Environment, Forests and Climate Change, Government of India									
	Destal address	Ministry of Environment, Forest and Climate Change Government of India, Indira Paryavaran Bhawan Jorbagh Road, New Delhi - 110 003 INDIA									

#### 2.1.2 - Period of collection of data and information used to compile the RIS

From year	2018
To year	2022

#### 2.1.3 - Name of the Ramsar Site

Official name (in English, French or	
	Nagi Bird Sanctuary
Coopieb	nagi bila Galiotaaly
Spanish	

# 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 Nagi reservoir came to existence due to construction of a dam on the Nagi river by Irrigation Department in Jamui district of Bihar state. The reservoir is surrounded by undulating landscape including barren land as well as agricultural field interspersed with rocky hillocks.

The boundary of the wetland is based on the flood plain of the reservoir, when Nagi reservoir was initially notified as Bird Sanctuary area in 1987, under Wildlife Protection Act, 1972. But, this boundary is variable, depending upon the rainfall every year, which decides the expanse of the wetland. Since, this wetland is an artificial dam, hence, only the western boundary of the wetland is a road, connecting the 2 villages, namely Tola Barajor and Tola Harhanja. While the boundary of the wetland in the rest of the directions is fluid, and does not have a permanence. Hence, the corresponding villages in respective directions of the flood plain of the wetland have been mentioned as the boundaries of the wetland.

The reservoir is surrounded by Tola Karma and Tola Tara Kura Chapa villages on the east, Tola Harhanja and Tola Baratanhr villages on the north, and Tola Barajor village on the south of the sanctuary.

#### 2.2.2 - General location

a) In which large administrative region does	The Site lies in the Jamui District of Bihar State in India
b) What is the nearest town or population	Jhajha town, located 9km from the Site by road (aerial distance of 4.5 km). The population in Jamuji
centre?	district is 1,986,77 (2011 census).

#### 2.2.3 - For wetlands on national boundaries only

a) Does the wetland extend onto the territory of one or more other countries? Yes O No (

b) Is the site adjacent to another designated Ramsar Site on the territory of another Contracting Party?

#### 2.2.4 - Area of the Site

Official area, in hectares (ha): 205.817

Area, in hectares (ha) as calculated from GIS boundaries 211.77

# 2.2.5 - Biogeography

	Biogeographic regions									
Regionalisation scheme(s) Biogeographic region										
	Freshwater Ecoregions of	Ecoregion: Ganges Delta & Plain; Ecoregion ID: 709								
	the World (FEOW)									

# 3 - Why is the Site important?

# 3.1 - Ramsar Criteria and their justification

<no data available>

#### Criterion 2 : Rare species and threatened ecological communities

Optional text box to provide further information Endangered species like black bellied tern (Sterna acuticauda) and other threatened species such as lesser adjutant stork (Leptoptilos javanicus), river tern (Sterna aurantia), painted stork (Mycteria leucocephala), ferruginous duck (Aythya nyroca), darter (Anhinga melanogaster), Indian Skimmer (Rynchops albicollis) and Black-headed ibis (Threskiornis melanocephalus) also inhabit the Site. Wallago attua, a vulnerable fish species, also inhabits the reservoir.

#### Criterion 3 : Biological diversity

The Site supports rich fauna and flora diversity. It is recognized internationally as an important habitat for both migratory and native waterbirds and is also designated as an Important Bird Area by Birdlife International. It provides shelter to several species of fish, amphibians, reptiles, birds and mammals of conservation importance. The catchment area of the Site is composed of dry deciduous forest with several indigenous terrestrial plants. A total of over 74 bird species, 12 species of macrophytes, 33 species of fishes have been recorded from the Site and its fringes. The site is home to several bird species, over 75 in number, of which about 30 are migratory, and over 40 are residential. Various wildlife species of conservation importance, such as Brown Sand Boa (Eryx johnii), Wallago attu, Steppe Eagle (Aquila nipalensis), Baer's Pochard (Aythya baeri), Common Pochard (Aythya farina), Ferruginous Duck (Aythya nyroca), Black necked Stork (Ephippiorhynchus asiaticus), Indian Skimmer (Rynchops albicollis), Indian River Tern (Sterna aurantia), Sociable Lapwing (Vanellus gregarius ) etc. Various wetland dependant species, such as Hydrilla verticillata, Vallisnaria natans, Marsilea minuta, Sagittaria sagtifolia, Eleochais palustris, Typha angustata, Common Kingfisher (Alcedo atthis), Northern Pintail (Anas acuta), Justification Northern Shoveler (Anas clypeata), Common Teal (Anas crecca), Garganey (Anas querquedula), Gadwal (Anas strepera), Greylag Goose (Anser anser), Bar-headed Goose (Anser indicus), Paddyfield Pipit (Anthus rufulus), Baer's Pochard (Aythya baeri), Common Pochard (Aythya farina), Tufted Duck (Aythya fuligula), Ferruginous Duck (Aythya nyroca), Little Stint (Calidris minuta), Indian Skimmer (Rynchops albicollis), Red Crested Pochard (Netta rufina), Indian River Tern (Sterna aurantia) etc. The Site provides wintering habitat to several migratory bird species. Large congregation of Bar-headed Goose (Anser indicus), Grey-lag Goose (Anser anser), Red-crested Pochard (Netta rufina), Common Pochard (Aytha farina), Northern Pintail (Anas acuta), other water birds and shoreline birds are recorded from the wetland. The wetland provides a habitat to a diverse set of species, reptiles, amphibians, fish, plants etc, aside from housing enormous avian biodiversity. It provides feedstock to these species, as also a breeding site. It lies at the confluence of terrestrial and aquatic ecosystems, thus housing a diverse range of species belonging to both ecosystems, as also some unique species (edge effect). Many of the species recorded are rare (EN, CR, VU as per IUCN red list). The site also lies at the confluence of terrestrial and aquatic ecosystems, supporting biodiversity belonging to each of these ecosystems.

Criterion 4 : Support during critical life cycle stage or in adverse conditions

	The site is a wintering ground for various migratory bird species, such as Actitis hypoleucos (Common	
	Sandpiper), Anas acuta (Northern Pintail), Anas clypeata (Northern Shoveller), Anthus hodgsoni (Indian	
	Tree Pipit), Anas crecca (Common Teal), Anas querquedula (Garganey), Anser anser (Greylag Goose),	
	Anser indicus (Bar-headed Goose), Anthus trivialis (Brown Tree Pipit), Aquila nipalensis (Steppe Eagle),	
Optional text box to provide further	Aythya ferina (Common Pochard), Aythya fuligula (Tufted Duck), Aythya nyroca (Ferruginous Duck),	
	Calandrella brachydactyla (Greater Short foed Lark), Calidris minuta (Little Stint), Chaimarrornis	
information	leucocephalus (White capped Redstart), Charadrius alexandrinus (Kentish Plover), Circus aeruginosus	
	(Eurasian Marsh Harrier), Falco tinnunculus (Common Kestrel), Mergus merganser (Common	
	Merganser), Netta rufina (Red crested Pochard), Numenius arquata (Eurasian Curlew), Ocyceros birostris	
	(Indian Grey Hornbill), Pluvialis apricaria (Eurasian Golden Plover), Tadorna ferruginea (Ruddy Shelduck),	
	Tringa erythropus (Spotted Redshank) etc, hence, supporting them in a critical life cycle stage.	

## ☑ Criterion 5 : >20,000 waterbirds

Overall waterbird numbers	22984
Start year	2019
End year	2023
Source of data:	Asian Waterbird Census
	The Asian Waterbird Census is conducted annually. The data over the previous 5 years has been
information	averaged to arrive at the above mentioned numbers.

# Criterion 6 : >1% waterbird population

	Approximately 1600 Bar-headed Goose (Anser indicus) have been recorded from Nagi reservoir, which
Optional text box to provide further	amounts to >1.6% of Bar-headed Goose total population in the biogeographic region. This man-made
information	wetland is also an Important Bird Area and has been declared as a Bird Sanctuary.

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

Phylum	Scientific name	Criterion 2	Criterion 3	Criterion 4	IUCN Red List	CITES Appendix I	Other status	Justification
Plantae								
TRACHEOPHYTA/ MAGNOLIOPSIDA	Bacopa monnieri		Ø		LC			It is a valuable medicinal plant, which is also rare and unique to the region.
TRACHEOPHYTA/ MAGNOLIOPSIDA	Ceratophyllum demersum		Ø		LC			It is a floating plant that offers feedstock for fish, and supports avian biodiversity
TRACHEOPHYTA/ LILIOPSIDA	Cyperus rotundus		Ø		LC			It is a valuable medicinal plant, which is also rare and unique to the region.
TRACHEOPHYTA/ MAGNOLIOPSIDA	Eclipta prostrata		V		LC			It is a valuable medicinal plant, which is also rare and unique to the region.
TRACHEOPHYTA/ LILIOPSIDA	Eleocharis palustris		Ø		LC			It offers feedstock for fish, and a habitat and breeding ground for birds
TRACHEOPHYTA/ LILIOPSIDA	Hydrilla verticillata		V		LC			It is an aquatic plant, which offers feedstock for fish, and a habitat and breeding ground for birds
TRACHEOPHYTA/ LILIOPSIDA	Lemna minor		V		LC			It is an aquatic plant, which offers feedstock for fish, and a habitat and breeding ground for birds
TRACHEOPHYTA/ POLYPODIOPSIDA	Marsilea minuta		V		LC			It is an aquatic fern, which offers feedstock for fish, and a habitat and breeding ground for birds
TRACHEOPHYTA/ LILIOPSIDA	Sagittaria sagittifolia		V		LC			It is an aquatic plant, which offers feedstock for fish, and a habitat and breeding ground for birds
TRACHEOPHYTA/ MAGNOLIOPSIDA	Tectona grandis	X			EN			It has a large canopy, which provides shelter to birds and creates a vibrant ecosystem
TRACHEOPHYTA/ LILIOPSIDA	Typha domingensis		Ø		LC			It is an aquatic plant that offers feedstock for fish, and supports avian biodiversity
TRACHEOPHYTA/ LILIOPSIDA	Vallisneria natans		Ø		LC			It is an aquatic plant that offers feedstock for fish, and supports avian biodiversity

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

Phylum	Scientific name	Species qualifies under criterion2469	Species contributes under criterion3578	Size	Period of pop. Est. or	IUCN Red List	CITES Appendix I	CMS Appendix I	Other Status	Justification
Others										
CHORDATA/ REPTILIA	Amphiesma stolatum		ØOOO			LC				It is a species of nonvenomous colubrid snake found across Asia. It is a typically nonaggressive snake that feeds on frogs and toads. Wetland provides habitat to the species.
CHORDATA/ REPTILIA	Bungarus caeruleus					LC				It is a species of highly venomous elapid snake of the genus Bungarus native to the Indian subcontinent. Wetland provides habitat to the species.

Phylum	Scientific name	Species qualifies under criterion 2 4 6 9	co	und criter	outes er rion	Pop. Size	Period of pop. Est.	% occurrence 1)	IUCN Red List	CITES Appendix I	CMS Appendix I	Other Status	Justification
CHORDATA/ REPTILIA	Daboia russelii		J						LC				Although there are various subspecies of the Russel's viper found in the Indian subcontinent, the Daboia russelii nordicus is unique to this region.
CHORDATA/ AMPHIBIA	Duttaphrynus melanostictus		Jø						LC				The Site provides breeding ground to this species, which is native to south and south east Asia.
CHORDATA/ MAMMALIA	Elephas maximus indicus	ØOOC							EN		<b>X</b>		The Indian Elephant has been listed as Endangered on the IUCN Red List. Signs of the animal have been found in the area around the dam site.
CHORDATA/ REPTILIA	Eryx johnii		Jø						NT			CITES Appendix II	This near-threatened species is endemic to Iran, Pakistan, and India.
CHORDATA/ AMPHIBIA	Hoplob atrachus tigerinus		J						LC			CITES Appendix II	It is a large species of fork-tongued frog found in South and Southeast Asia. A relatively large frog, it is normally green in color, although physiological traits vary between populations. Wetland provides habitat to the species.
CHORDATA/ AMPHIBIA	Hyla arborea		J						LC				Wetland provides habitat to the species, indigenous to mainland Europe, Northwest Africa and temperate Asia.
CHORDATA/ REPTILIA	Naja naja								LC			CITES Appendix II	The species is native to the Indian subcontinent, and is a member of the "big four" species that are responsible for the most snakebite cases in India. Wetland provides habitat to the species.
CHORDATA/ REPTILIA	Ptyas mucosa		Jø						LC			CITES Appendix II	The Site provides breeding ground to this species, which is native to south and south east Asia.
CHORDATA/ REPTILIA	Python molurus								NT				This near-threatened species is found in wet rocky areas near the wetland and under large rotting logs and large burrows. It is native to the Indian subcontinent and Southeast Asia.
CHORDATA/ REPTILIA	Varanus bengalensis								NT	×			This near-threatened species is distributed widely in the Indian Subcontinent and some parts of Southeast Asia and West Asia.
Fish, Mollusc a	and Crustacea										1		
CHORDATA/ ACTINOPTERYGI	Acanthocobitis I botia		Jø						LC				It is a species of ray-finned fish in the genus, or subgenus, Paracanthocobitis. Wetland provides habitat to the species.
CHORDATA/ ACTINOPTERYGI	I Ailia coila								NT				It is a species of catfish in the family Ailiidae native to India, Bangladesh, Nepal and Pakistan. Wetland provides habitat to the species.
CHORDATA/ ACTINOPTERYGI	Anabas I testudineus								LC				Wetland provides habitat to the species.
CHORDATA/ ACTINOPTERYGI	Botia dario								LC				Also known as Bengal loach or Queen loach, is a species of fish in the loach family Botiidae found in the Brahmaputra and Ganges basins in Bangladesh, Bhutan and northern India.It's among the most easily-recognisable in the genus due to its particularly curved head shape. Wetland provides habitat to the species.
CHORDATA/ ACTINOPTERYGI	Chanda nama								LC				It is native to an area of south Asia from Pakistan to Burma, in the Indomalayan realm. Wetland provides habitat to the species.

Phylum	Scientific name	Species qualifies under criterionSpecies contri under crite246935	butes ler rion	Pop. Size Period of pop. Est.	% IUCN occurrence 1) List	Annondiv	CMS Appendix I	Other Status	Justification
CHORDATA/ ACTINOPTERYGII	Channa gachua				LC				It is native to freshwater habitats in southern Asia, where it has a wide distribution. This is a common fish found in most any type of wetland. It can live in large rivers or small brooks and creeks, in fast currents or stagnant waters, and in altered waterways such as canals. The wetland provides habitat to the species.
CHORDATA/ ACTINOPTERYGII	Channa marulius				LC				It is an important commercial, aquaculture, game and aquarium fish. It has been cultured in ponds, ricefields and other waterbodies which do not typically support fishes, such as irrigation wells. The wetland provides habitat to the species.
CHORDATA/ ACTINOPTERYGII	Channa punctata				LC				It is a species of snakehead. It is found in the Indian Subcontinent. Found in ponds, swamps, brackish water, ditches and beels . Adults prefer stagnant waters. The site offers a unique confluence of terrestrial and aquatic ecosystems, which is needed by the species.
CHORDATA/ ACTINOPTERYGII	Chitala chitala				NT				It is found in the Brahmaputra, Indus, Ganges and Mahanadi River basins. Wetland provides habitat to the species.
CHORDATA/ ACTINOPTERYGII	Cirrhinus mrigala				LC				Cirrhinus mrigala is an important Indian major carp. The habitation and roosting season of the migratory birds is from mid-November to mid-March and, during the fag end of Retreating Monsoon, fingerlings of this fish species are put in the wetland, to provide feedstock for migratory birds, especially raptors.
CHORDATA/ ACTINOPTERYGII	Clarias batrachus				LC				Freshwater air breathing catfish species native to Asia.
CHORDATA/ ACTINOPTERYGII	Gagata cenia				LC				It is a species of sisorid catfish found in the Ganges Delta and the Indus River. Wetland provides habitat to the species.
CHORDATA/ ACTINOPTERYGII	Gibelion catla				LC				It is native to rivers and lakes in northern India, Bangladesh, Myanmar, Nepal, and Pakistan, but has also been introduced elsewhere in South Asia and is commonly farmed.
CHORDATA/ ACTINOPTERYGII	Glossogobius giuris				LC				It is a species of goby native to fresh, marine and brackish waters. Wetland provides habitat to the species.
CHORDATA/ ACTINOPTERYGII	Gudusia chapra				LC				It is a species of fish in the family Clupeidae, occurring in rivers of India and Bangladesh draining to the Bay of Bengal. Wetland provides habitat to the species.
CHORDATA/ ACTINOPTERYGII	Hemibagrus menoda				LC				Wetland provides habitat to the species.
CHORDATA/ ACTINOPTERYGII	Heteropneustes fossilis				LC				It is found mainly in ponds, ditches, swamps, and marshes, but sometimes occurs in muddy rivers. It can tolerate slightly brackish water. Wetland provides habitat to the species.
CHORDATA/ ACTINOPTERYGII	Labeo bata				LC				Cirrhinus mrigala is an important Indian major carp. The habitation and roosting season of the migratory birds is from mid-November to mid-March and, during the fag end of Retreating Monsoon, fingerlings of this fish species are put in the wetland, to provide feedstock for migratory birds, especially raptors.
CHORDATA/ ACTINOPTERYGII	Labeo calbasu				LC				Wetland provides breeding ground to the species, native to India and Bangladesh.

Phylum	Scientific name	qu qu cri	ecie alifie nder terio	s	contr un crite	cies ibutes der erion 7 8	Pop. Size Period of pop. Est. % UCt occurrence 1)	Appondix	CMS I Appendix I	Other Status	Justification
CHORDATA/ ACTINOPTERYGII	Labeo rohita				Z 🗆		LC				Indo-riverine wetland species that is also used in polyculture. Species is widely distributed in tropical freshwater in Indian subcontinent.
CHORDATA/ ACTINOPTERYGII	Lepidocephalichthys annandalei				20		LC				Distinguished from all congeners by its unique caudal fin coloration, consisting of two distinct black spots (one at upper base of fin and one at center of posterior edge of fin). Wetland provides habitat to the species.
CHORDATA/ ACTINOPTERYGII	Macrognathus aculeatus				20		LC				It is a Southeast Asian tropical freshwater fish. Wetland provides habitat to the species.
CHORDATA/ ACTINOPTERYGII	Macrognathus pancalus				20		LC				It is a small freshwater fish in southern Asia. It usually is found in slow and shallow rivers. Wetland provides habitat to the species.
CHORDATA/ ACTINOPTERYGII	Mastacembelus armatus				20		LC				It is a species of ray-finned, spiny eels belonging to the genus Mastacembelus, and is native to the riverine fauna of India. Wetland provides habitat to the species.
CHORDATA/ ACTINOPTERYGII	Mystus tengara				20		LC				Adults inhabit rivers and ponds in plains and submontane regions. Wetland provides habitat to the species.
CHORDATA/ ACTINOPTERYGII	Notopterus notopterus				20		LC				It is a ray-finned fish in the family Notopteridae found in South and Southeast Asia. Although primarily found in fresh water, it has been known to enter brackish water. Wetland provides habitat to the species.
CHORDATA/ ACTINOPTERYGII	Ompok bimaculatus				ZO		NT				It is a species of sheatfishes native to Asian countries such as Bangladesh, India, Pakistan, and Sri Lanka. Wetland provides habitat to the species.
CHORDATA/ ACTINOPTERYGII	Parambassis ranga				20		LC				It is a species of freshwater fish. Wetland provides habitat to the species.
CHORDATA/ ACTINOPTERYGII	Pethia ticto				20		LC				Found in the shallow, still and marginal water of the wetland and contributes to the biodiversity of the site.
CHORDATA/ ACTINOPTERYGII	Salmostoma bacaila				20		LC				It is one of thirteen species of ray-finned fish in the genus Salmostoma.
CHORDATA/ ACTINOPTERYGII	Systomus sarana				20		LC				Wetland provides breeding ground to the species, native to south and south east Asia.
CHORDATA/ ACTINOPTERYGII	Trichogaster fasciata				20		LC				It is a tropical labyrinth perch found in some Asian countries. Wetland provides habitat to the species.
CHORDATA/ ACTINOPTERYGII	Wallago attu	Ø			20		VU				Wetland provides breeding ground to the species, native to south and south east Asia.
Birds	1	1 1									
CHORDATA/ AVES	Accipiter badius				11		6 December, 2022 to February, 2023 LC				It is a small raptor, found in a wide range of habitats. The site provides feedstock and a breeding ground for the species.
	Acridotheres ginginianus				11		10 December, 2022 to February, 2023 LC				It is a myna found in the northern parts of South Asia. The native range is almost restricted to the Indian subcontinent.

Phylum	Scientific name	Species qualifies under criterion 2 4 6	und crite	butes ler rion	Pop. Size	Period of pop. Est.	% occurrence 1)	IUCN Red List	CITES Appendix I	CMS Appendix I	Other Status	Justification
CHORDATA/ AVES	Actitis hypoleucos				5	December, 2022 to February, 2023		LC				The common sandpiper breeds across most of temperate and subtropical Europe and Asia, and migrates to Africa, southern Asia and Australia in winter. The wetland is a wintering site for the species.
CHORDATA/ AVES	Alcedo atthis				5	December, 2022 to February, 2023		LC				It is a small kingfisher, widely distributed over Europe, Asia, and North Africa. The wetland provides a habitat to the species.
CHORDATA/ AVES	Anas acuta				72	December,2022 to February,2023		LC				It is a duck species with wide geographic distribution that breeds in the northern areas of Europe and North America.The Site is a wintering location of the species.
CHORDATA/ AVES	Anas clypeata				7	December, 2022 to February, 2023		LC				It is a duck species with wide geographic distribution that breeds in the northern areas of Europe and North America.The Site is a wintering location of the species.
CHORDATA/ AVES	Anas crecca				6	December,2022 to February,2023		LC				It is a common and widespread duck that breeds in temperate Europe and migrates south in winter. The Site is a wintering location of the species.
CHORDATA/ AVES	Anas penelope				7	December, 2022 to February, 2023		LC				It breeds in temperate Europe and migrates south in winter. The Site is a wintering location of the species.
CHORDATA/ AVES	Anas querquedula				6	December,2022 to February,2023		LC				It is a small dabbling duck. The Site is a wintering location of the species.
CHORDATA/ AVES	Anas strepera				215	December, 2022 to February, 2023		LC				This Site shelters one of the major congregations of this Species in the entire Indo-gangetic plain.
CHORDATA/ AVES	Anastomus oscitans				7	December, 2022 to February, 2023		LC				It is a large wading bird in the stork family. It is found only in water bodies. The wetland provides a habitat to the species.
CHORDATA/ AVES	Anser anser				4810	December, 2022 to February, 2023		LC				It is a species of large goose in the waterfowl family. The Site is a wintering location of the species.
CHORDATA/ AVES	Anser indicus				1600	Dec, 2022 to Feb, 2023	3	LC				This Site shelters one of the major congregations of this Species in the entire Indo-gangetic plain.
CHORDATA/ AVES	Anthus hodgsoni				17	December, 2022 to February, 2023		LC				It is a small passerine bird of the pipit genus, which breeds across southern, north central and eastern Asia, as well as in the north-eastern European Russia. It is a long-distance migrant moving in winter to southern Asia.
CHORDATA/ AVES	Anthus rufulus				7	December,2022 to February,2023		LC				It is a small passerine bird in the pipit and wagtail family. It is a resident (non-migratory) breeder in open scrub, grassland and cultivation in southern Asia.
CHORDATA/ AVES	Anthus trivialis				12	December, 2022 to February, 2023		LC				It is a small passerine bird which breeds across most of Europe. It is a long-distance migrant moving in winter to Africa and southern Asia. The Site is a wintering location of the species.
CHORDATA/ AVES	Aquila nipalensis	220			7	December, 2022 to February, 2023		EN		Ø		It is an Endangered bird species found in the wetland. The Site is a wintering location of the species.
CHORDATA/ AVES	Athene brama				31	December, 2022 to February, 2023		LC				It is a small owl which breeds in tropical Asia from mainland India to Southeast Asia. Wetland provides habitat to the species.

Phylum	Scientific name	Species qualifies under criterion 2 4 6	C	Species ontribute under criterion 5 7	S	op. ize	Period of pop. Est.	% occurrence 1)	IUCN Red List	CITES Appendix I	CMS Appendix I	Other Status	Justification
CHORDATA/ AVES	Aythya baeri	ØOO					December, 2022 o February, 2023		CR		×		It is a Critically Endangered bird species found in the wetland. The Site is a wintering location of the species.
CHORDATA/ AVES	Aythya ferina	220			<b></b> 5		December,2022 to February,2023		VU				It is a Vulnerable bird species found in the wetland. The Site is a wintering location of the species.
CHORDATA/ AVES	Aythya fuligula				<b>-</b> 5		December,2023 to February,2023		LC				It is a small diving duck with a population of close to one million birds, found in northern Eurasia. The Site is a wintering location of the species.
CHORDATA/ AVES	Aythya nyroca	220					December, 2022 o February, 2023		NT		<b>X</b>		It is a medium-sized diving duck from Eurosiberia. The Site is a wintering location of the species.
CHORDATA/ AVES	Calandrella brachydactyla				1		December, 2022 o February, 2023		LC				It is a small passerine bird. It breeds in southern Europe, north- west Africa, and across the Palearctic from Turkey and southern Russia to Mongolia. During migration they form large, tight flocks that move in unison; at other times they form loose flocks. The Site is a wintering location of the species.
CHORDATA/ AVES	Calidris minuta			20			December, 2022 o February, 2023		LC				It is a very small wader. It breeds in arctic Europe and Asia, and is a long-distance migrant, wintering south to Africa and south Asia. The Site is a wintering location of the species.
CHORDATA/ AVES	Centropus sinensis			) I I I I I I I I I I I I I I I I I I I	<b>-</b> 5		December, 2022 o February, 2023		LC				It widespread resident in the Indian Subcontinent and Southeast Asia. Wetland provides habitat, feedstock and breeding ground to the species.
CHORDATA/ AVES	Chaimarrornis Ieucocephalus						December, 2022 o February, 2023		LC				It is a passerine bird, native to the Indian Subcontinent,Southeast Asia, much of China, and to certain regions of Central Asia. The Site is a wintering location of the species.
CHORDATA/ AVES	Charadrius alexandrinus						December, 2022 o February, 2023		LC				It breeds on the shores of saline lakes, lagoons, and coasts, populating sand dunes, marshes, semi-arid desert, and tundra. The Site is a wintering location of the species.
CHORDATA/ AVES	Charadrius dubius						December, 2022 o February, 2023		LC				Their breeding habitat is open gravel areas near freshwater, including gravel pits, islands and river edges across the Palearctic including northwestern Africa. Wetland provides habitat to the species.
CHORDATA/ AVES	Ciconia episcopus			) V D			December, 2022 o February, 2023		NT				It is a species of large wading bird in the stork family. It is distributed in a wide variety of habitats including marshes in forests, agricultural areas, and freshwater wetlands across Asia. Wetland provides habitat to the species.
CHORDATA/ AVES	Circus aeruginosus						December, 2022 o February, 2023		LC				It is a large harrier, a bird of prey from temperate and subtropical western Eurasia and adjacent Africa. The Site is a wintering location of the species.
CHORDATA/ AVES	Clamator jacobinus						December, 2022 o February, 2023		LC				It is partially migratory and in India, it has been considered a harbinger of the monsoon rains due to the timing of its arrival. Wetland provides habitat to the species.
CHORDATA/ AVES	Copsychus saularis				1		December, 2022 o February, 2023		LC				It is a small passerine bird, occurring across most of the Indian subcontinent and parts of Southeast Asia. Wetland provides habitat to the species.

Phylum	Scientific name	Species qualifies under criterion 2 4 6 9	con u cri	becies tributes Inder iterion 5 7 8	Pop. Size	Period of pop. Est.	% occurrence 1) IUCN Red List	CITES Appendix I	CMS Appendix I	Other Status	Justification
CHORDATA/ AVES	Coracias benghalensis		126	200	] 5	December,2022 to February,2023	LC				The Indian roller occurs widely from West Asia to the Indian subcontinent. Often found perched on roadside trees and wires, it is common in open grassland and scrub forest habitats, and has adapted well to human-modified landscapes. The wetland provides habitat, feedstock and breeding ground for the species.
CHORDATA/ AVES	Cuculus varius		] 🛛 🛛	200	] 30	December, 2022 to February, 2023	LC				It is a medium-sized cuckoo resident in the Indian subcontinent. It is unique to this ecosystem, receiving ideal habitat conditions.
CHORDATA/ AVES	Dicrurus caerulescens		] 🗹 🖓		] 12	December, 2022 to February, 2023	LC				The white-bellied drongo is a resident breeder in India and Sri Lanka. This species is usually found in dry scrub or open forests. It is unique to this ecology. It is unique to this ecology.
CHORDATA/ AVES	Dicrurus macrocercus		] 🗹 🖟		22	December, 2022 to February, 2023	LC				It is a common resident breeder in much of tropical southern Asia. The wetland provides habitat, feedstock and breeding ground for the species.
CHORDATA/ AVES	Egretta garzetta		] 🗹 🖓	200	] 44	December, 2022 to February, 2023	LC				Its breeding distribution is in wetlands in warm temperate to tropical parts of Europe, Africa, Asia, and Australia. It is mainly found near water bodies. The wetland offers an ideal habitat to the species.
CHORDATA/ AVES	Ephippiorhynchus asiaticus				] 6	December, 2022 to February, 2023	NT				It is. a near threatened species found in the wetland. It lives exclusively in wetlands.
CHORDATA/ AVES	Eremopterix griseus		] 🛛 🗟	200	] 4	December, 2022 to February, 2023	LC				The wetland provides habitat, feedstock and breeding ground for the species.
CHORDATA/ AVES	Euodice malabarica				] 5	December,2022 to February,2023	LC				This species is usually found close to water bodies. Hence, the wetland provides an ideal habitat for the species.
CHORDATA/ AVES	Falco tinnunculus		] 🗹 🖓	200	] 4	December, 2022 to February, 2023	LC				This species occurs over a large range. It is widespread in Europe, Asia, and Africa, as well as occasionally reaching the east coast of North America. The Site is a wintering location of the species.
CHORDATA/ AVES	Ficedula parva		126		] 10	December, 2022 to February, 2023	LC				It breeds in eastern Europe and across Central Asia and is migratory, wintering in south Asia. Wetland provides wintering ground to the species.
CHORDATA/ AVES	Francolinus pondicerianus		000	200	6	December, 2022 to February, 2023	LC				It is a species of francolin found in the plains and drier parts of the Indian subcontinent and Iran. This species is specific to the ecology of the area.
CHORDATA/ AVES	Fulica atra		] 🛛 🛛	200	5957	December, 2022 to February, 2023	LC				This Site shelters one of the major congregations of this Species in the entire Indo-gangetic plain.
CHORDATA/ AVES	Glareola lactea		] 🛛 🖓	200	] 130	December,2022 to February,2023	LC				The small pratincole is a resident breeder in India, Western Pakistan, Bangladesh, Burma, Laos, Cambodia, Sri Lanka and Thailand. It breeds from December to March on gravel or sand banks near rivers and lakes, laying 2–4 eggs in a ground scrape.
CHORDATA/ AVES	Gyps bengalensis	Rooo		200	] 4	December, 2022 to February, 2023	CR		×		It is a Critically Endangered Species found in the wetland.
CHORDATA/ AVES	Gyps indicus		] 🖉 🖟		5	December, 2022 to February, 2023	CR		×		It is a Critically Endangered Species found in the wetland.

Phylum	Scientific name	qua un crite	cies lifies der erion 6 9	Spe contri uno crite	butes der rion	Pop. Size	Period of pop. Est.	IUCN Red List	CITES Appendix I	CMS Appendix I	Other Status	Justification
CHORDATA/ AVES	Haliaeetus Ieucoryphus			ZZ		6	December, 2022 to February, 2023	EN		<b>V</b>		It is an Endangered Species found in the wetland.
CHORDATA/ AVES	Himantopus himantopus			ZZ		52	December, 2022 to February, 2023	LC				The breeding habitat of this species is marshes, shallow lakes and ponds. Hence, the wetland provides an ideal habitat to this species.
CHORDATA/ AVES	Hirundo rustica			II		15	December,2022 to February,2023	LC				This species prefers an open habitat that is close to water. Hence, the wetland provides an ideal habitat to the species.
CHORDATA/ AVES	Leptoptilos dubius					9	December,2022 to February,2023	EN				It is an Endangered Species found in the wetland.
CHORDATA/ AVES	Leptoptilos javanicus					7	December, 2022 to February, 2023	VU				It is a Vulnerable Species found in the wetland.
CHORDATA/ AVES	Mergus merganser	DØ		ZZ		10	December, 2022 to February, 2023	LC				It is a large seaduck of rivers and lakes in forested areas of Europe, Asia, and North America. The Site is a wintering location of the species.
CHORDATA/ AVES	Microcarbo niger			ZZ		2912	December,2022 to February,2023	LC				It is widely distributed across the Indian Subcontinent. It forages singly or sometimes in loose groups in lowland freshwater bodies, including small ponds, large lakes, streams and sometimes coastal estuaries.
CHORDATA/ AVES	Milvus migrans			ZZ		4	December,2022 to February,2023	LC				The wetland provides a habitat and feeding material to the species.
CHORDATA/ AVES	Neophron percnopterus			ZZ		5	December,2022 to February,2023	EN		×		It is an Endangered Species found in the wetland.
CHORDATA/ AVES	Netta rufina			ZZ		5846	December,2022 to February,2023	LC				This Site shelters one of the major congregations of this Species in the entire Indo-gangetic plain.
CHORDATA/ AVES	Nettapus coromandelianus			ZZ		204		LC				It is a small perching duck which breeds in Asia, Southeast Asia extending south and east to Queensland. They are among the smallest waterfowl in the world and are found in small to large waterbodies with good aquatic vegetation.
CHORDATA/ AVES	Numenius arquata			ZZ		6	December,2022 to February,2023	NT				The curlew exists as a migratory species over most of its range, wintering in Africa, southern Europe and south Asia.
CHORDATA/ AVES	Ocyceros birostris			ZZ		4	December,2022 to February,2023	LC				It is a common hornbill[2] found on the Indian subcontinent. The Site is a wintering location of the species.
CHORDATA/ AVES	Oenanthe fusca			ZZ		5	December,2022 to FEBRUARY,2023	LC				The species is endemic to India. The wetland provides a habitat and feedstock to the species.
CHORDATA/ AVES	Pandion haliaetus			ZZ		5		LC				The osprey tolerates a wide variety of habitats, nesting in any location near a body of water providing an adequate food supply.
CHORDATA/ AVES	Pernis ptilorhynchus			22		6	December,2022 to February,2023	LC				It migrates for breeding to Siberia and Japan during the summer. They then spend the winter in Southeast Asia and the Indian subcontinent. The Site is a wintering location of the species.
CHORDATA/ AVES	Pluvialis apricaria			ZZ		4	December,2022 to February,2023	LC				It tends to breed in the Arctic tundra and other palearctic areas. It tends to gather in large flocks and winter in open areas, agricultural plains, ploughed land, and short meadows. The Site is a wintering location of the species.

Phylum	Scientific name	Species qualifies under criterion 2 4 6	s c n	contr un crite	cies ibutes der erion 7 8	Pop. Size	Period of pop. Est.	% occurrence 1)	IUCN Red List	CITES Appendix I	CMS Appendix I	Other Status	Justification
CHORDATA/ AVES	Rynchops albicollis			9 🔽		8			EN				It is found in southern Asia, where it is patchily distributed and declining in numbers. They are mainly found in rivers or estuaries.
CHORDATA/ AVES	Sterna acuticauda			0		7	December,2022 to February,2023		EN				It is an Endangered Species found in the wetland.
CHORDATA/ AVES	Sterna aurantia	ØOO		D		7	December,2022 to February,2023		VU				It is a Vulnerable Species found in the wetland.
CHORDATA/ AVES	Tachybaptus ruficollis			9 🔽		392	December,2022 to February,2023		LC				It is an aquatic bird, found in water bodies. The wetland provides a suitable habitat, feedstock and breeding ground for the species.
CHORDATA/ AVES	Tadorna ferruginea			9 🔽		48	December,2022 to February,2023		LC				This Site shelters one of the major congregations of this Species in the entire Indo-gangetic plain.
CHORDATA/ AVES	Threskiornis melanocephalus			9 🔽		67	December,2022 to February,2023		NT				It is a species of wading bird of the ibis family. It breeds in the South and Southeast Asia. Wetland provides habitat to the species.
CHORDATA/ AVES	Tringa erythropus	oø0		9 🖌		5	December,2022 to February,2023		LC				It breeds across northern Scandinavia and the northern Palearctic and migrates south to the Mediterranean, the southern British Isles, France, tropical Africa, and tropical Asia for the winter. The Site is a wintering location of the species.
CHORDATA/ AVES	Vanellus gregarius			9 🔽		4	December,2023 to February,2023		CR		Ø		It is a fully migratory bird, breeding in Kazakhstan and wintering in the Middle East, Indian Subcontinent, and Sudan. The bird winters in the wetland.
CHORDATA/ AVES	Vanellus indicus			0		5	December,2022 to February,2023		LC				This species is usually found close to water bodies. the wetland provides a suitable habitat and breeding ground for the species.
CHORDATA/ AVES	Vanellus malabaricus			0		6	December,2022 to February,2023		LC				The species is endemic to the Indian Subcontinent. The wetland provides a unique peninsular topography to the species.

1) Percentage of the total biogeographic population at the site

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

<no data available>

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

# 4.1 - Ecological character

Although the wetland falls under the Gangetic plains as per the Bio-geographic zone classification of the country, but the overall characteristics and topography around the wetland is similar to Deccan plateau. The surrounding terrain is slightly undulating and the catchment area is surrounded by hills. The reservoir derives water from river Nagi, its tributaries and seasonal streams. The precipitation in the form of rainfall in the catchment area reaches the reservoir via these streams and rivers. South west monsoon is the main source of rainfall in this area. Most of the rainfall is received from middle of June to early October of every year. The catchment area is largely forest land and partially degraded. The natural vegetation is present at few places with presence of Boswellia serrata, Anogeissus latifolia, Madhuca longifolia, Ipomoea spp., Ziziphus jujuba, Datura metel, Achyrathus aspera, Mikania micrantha, Lantana camara, etc. The soil is reddish and full of gravels and pebbles and found on the slopes and around river beds. At some places soils are mixture of sand and clay and such areas are under cultivation. The artificial reservoir/wetland created by dams across the river and stream accrued over a period many bio-physical features that are similar to natural wetlands. Over the years it has developed into habitats of various migratory as well as resident birds, fishes and other flora and fauna representing aquatic landscape. The reservoir consists of clear water and the aquatic vegetation consists of species like Hydrilla verticillata, Potamogeton species, Certophyllumdemersum, Ottelia species etc. It also provides assured support for irrigation in the downstream area through canals. The wetland was formed by damming the local Nagi river and irrigate about 9850 acres of land. The recreational potential of the site is being realized gradually by local community as well as birders due to the potentiality of the reservoir in attracting several globally important bird species. Since the entire area is und

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

Human-made wetlands									
Wetland types (code and name)	Local name	Ranking of extent (1: greatest - 4: least)	Area (ha) of wetland type						
6: Water storage areas/Reservoirs	Nagi	1	211.77						

# 4.3 - Biological components

#### 4.3.1 - Plant species

Phylum	Scientific name	Position in range / endemism / other
TRACHEOPHYTA/MAGNOLIOPSIDA	Acacia catechu	Unique to this biogeography
TRACHEOPHYTA/MAGNOLIOPSIDA	Acacia nilotica	Impacts the environment through soil reclamation
TRACHEOPHYTA/MAGNOLIOPSIDA	Acalypha indica	Known for some medicinal properties
TRACHEOPHYTA/MAGNOLIOPSIDA	Albizia lebbeck	Unique to this biogeography
TRACHEOPHYTA/MAGNOLIOPSIDA	Andrographis paniculata	It is a medicinal plant
TRACHEOPHYTA/LILIOPSIDA	Aristida adscensionis	It is native to the Americas but it is distributed nearly worldwide
TRACHEOPHYTA/MAGNOLIOPSIDA	Artocarpus integer	It has a large canopy, which supports a diverse ecosystem of birds
TRACHEOPHYTA/MAGNOLIOPSIDA	Bauhinia purpurea	Unique to this biogeography
TRACHEOPHYTA/MAGNOLIOPSIDA	Boerhavia diffusa	It is a medicinal plant
TRACHEOPHYTA/MAGNOLIOPSIDA	Bombax ceiba	Unique to this biogeography
TRACHEOPHYTA/MAGNOLIOPSIDA	Butea monosperma	Unique to this biogeography
TRACHEOPHYTA/MAGNOLIOPSIDA	Calotropis gigantea	This plant plays host to a variety of insects and butterflies.
TRACHEOPHYTA/MAGNOLIOPSIDA	Carissa opaca	It is a medicinal plant
TRACHEOPHYTA/MAGNOLIOPSIDA	Cassia fistula	Unique to this biogeography
TRACHEOPHYTA/MAGNOLIOPSIDA	Clerodendrum indicum	It is a medicinal plant
TRACHEOPHYTA/LILIOPSIDA	Cyperus iria	It is a smooth, tufted sedge.
TRACHEOPHYTA/MAGNOLIOPSIDA	Dalbergia sissoo	Unique to this biogeography
TRACHEOPHYTA/MAGNOLIOPSIDA	Diospyros melanoxylon	Unique to this biogeography
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What is the Site like?, S4 - Page 1

Phylum	Scientific name	Position in range / endemism / other
TRACHEOPHYTA/MAGNOLIOPSIDA	Ficus religiosa	Checks soil erosion
TRACHEOPHYTA/MAGNOLIOPSIDA	Gmelina arborea	Unique to this biogeography
TRACHEOPHYTA/MAGNOLIOPSIDA	Gymnema sylvestre	It is a medicinal plant
TRACHEOPHYTA/MAGNOLIOPSIDA	Madhuca longifolia	Unique to this biogeography
TRACHEOPHYTA/MAGNOLIOPSIDA	Moringa oleifera	Unique to this biogeography
TRACHEOPHYTA/MAGNOLIOPSIDA	Nymphoides hydrophylla	A pondweed, which offers feedstock for fishes
TRACHEOPHYTA/LILIOPSIDA	Ottelia alismoides	A pondweed, which offers feedstock for fishes
TRACHEOPHYTA/MAGNOLIOPSIDA	Pongamia pinnata	It has a large canopy, which can house a vibrant ecosystem
TRACHEOPHYTA/LILIOPSIDA	Potamogeton crispus	A pondweed, which offers feedstock for fishes
TRACHEOPHYTA/MAGNOLIOPSIDA	Pterocarpus marsupium	Unique to this biogeography
TRACHEOPHYTA/MAGNOLIOPSIDA	Scoparia dulcis	A pondweed, which offers feedstock for fishes
TRACHEOPHYTA/MAGNOLIOPSIDA	Shorea robusta	Can come up in water logged areas
TRACHEOPHYTA/MAGNOLIOPSIDA	Sida rhombifolia	It is widely distributed as a tropical and subtropical weed.
TRACHEOPHYTA/LILIOPSIDA	Stuckenia pectinata	A pondweed, which offers feedstock for fishes
TRACHEOPHYTA/MAGNOLIOPSIDA	Terminalia arjuna	Unique to this biogeography
TRACHEOPHYTA/MAGNOLIOPSIDA	Terminalia bellirica	Unique to this biogeography

## Invasive alien plant species

Phylum	Scientific name	Impacts
TRACHEOPHYTA/MAGNOLIOPSIDA	Lantana camara	Actual (minor impacts)

# 4.3.2 - Animal species

## Other noteworthy animal species

Phylum	Scientific name	Pop. size	Period of pop. est.	% occurrence	Position in range /endemism/other
CHORDATAAVES	Anhinga melanogaster				It is a water bird of tropical South Asia and Southeast Asia.
CHORDATA/AVES	Chroicocephalus brunnicephalus				It is migratory, wintering on the coasts and large inland lakes of the Indian Subcontinent
CHORDATA/AVES	Cursorius coromandelicus				It is found, mainly in the plains bounded by the Ganges and Indus river system
CHORDATA/MAMMALIA	Hystrix indica				It is a hystricomorph rodent species native to southern Asia and the Middle East
CHORDATA/AVES	Mycteria leucocephala				Unique to this biogeography
CHORDATA/AVES	Pseudibis papillosa				Unique to this biogeography
CHORDATA/MAMMALIA	Vulpes bengalensis				Endemic to the Indian subcontinent

Invasive alien animal species

Phylum	Scientific name	Impacts
CHORDATA/MAMMALIA	Cuon alpinus	Actual (minor impacts)

# 4.4 - Physical components

### 4.4.1 - Climate

Climatic region	Subregion
C: Moist Mid-Latitude climate with mild winters	Cwa: Humid subtropical (Mild with dry winter, hot summer)

Although the current climate change effects on the Site are barely visible, future temperature changes and irregular rainfall may affect the water level and different aquatic communities of the reservoir.

#### 4.4.2 - Geomorphic setting

a) Minimum elevation above sea level (in metres) 116
a) Maximum elevation above sea level (in metres) 140
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.

The Nagi reservoirs fall within Harohar-Kiul river basin of Ganga River basin.

## 4.4.3 - Soil

Mineral 🗹	
Organic 🗹	
No available information $\Box$	
Are soil types subject to change as a result of changing hydrological conditions (e.g., increased salinity or acidification)? Yes O No	۲

## 4.4.4 - Water regime

Water permanence	
Presence?	
Usually permanent water present	No change

#### Source of water that maintains character of the site

Presence?	Predominant water source	
Water inputs from precipitation	×	No change
Water inputs from surface water	×	No change

#### Water destination

Presence?		
	Feeds groundwater	No change
	To downstream catchment	No change

Stability of water regime	vater regime
---------------------------	--------------

Presence?	
Water levels largely stable	No change

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

The reservoir derives water from river Nagi, its tributaries and other seasonal streams. Run-off rainfall water in the catchment also feeds into this Site; south west monsoon is primary driving factor for rainfall in this area. Most of the rainfall occurs from mid-June to early October each year.

(ECD) Connectivity of surface waters and of groundwater Gauradangi. It also receives run-off rainfall water from the surrounding catchment.

## 4.4.5 - Sediment regime

Significant erosion of sediments occurs on the site $\Box$	
Significant accretion or deposition of sediments occurs on the site $\Box$	
Significant transportation of sediments occurs on or through the site $\Box$	
Sediment regime is highly variable, either seasonally or inter-annually 🗖	
Sediment regime unknown 🗹	
(ECD) Water turbidity and colour	Turbidity 7.8 to 15.8 NTU in different sites
(ECD) Water temperature	26-32°Celcius

### 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)  $\Box$ 
  - 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 🗖		
	040	(ECD)

(ECD) Water conductivity 248

## 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 O ii) significantly different 🖲

- site itself:
- Surrounding area has greater urbanisation or development  $\Box$ 
  - Surrounding area has higher human population density  $\square$
  - Surrounding area has more intensive agricultural use 📝
- Surrounding area has significantly different land cover or habitat types 📝

Please describe other ways in which the surrounding area is different:

The surrounding area is undulating and hilly having dry deciduous forest, degraded forest or places devoid of forest. Apart from forested areas, one side of the reservoir is surrounded by agriculture fields.

# 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)	High
Fresh water	Drinking water for humans and/or livestock	High
Fresh water	Water for irrigated agriculture	High
Wetland non-food products	Fuel wood/fibre	High
Wetland non-food products	Livestock fodder	High
Wetland non-food products	Reeds and fibre	High
Biochemical products	Extraction of material from biota	High

# 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	High	
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 climactic processes	High	
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	Recreational hunting and fishing	High
Recreation and tourism	Nature observation and nature-based tourism	High
Scientific and educational	Educational activities and opportunities	High
Scientific and educational	Important knowledge systems, importance for research (scientific reference area or site)	High

#### Supporting Services

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

Within the site: 10

Outside the site: 30340

Have studies or assessments been made of the economic valuation of ecosystem services provided by this Ramsar Site?

## 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

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	×	
Private ownership		
Category	Within the Ramsar Site	In the surrounding area
Other types of private/individual owner(s)		×

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

The reservoir was formed due to construction of dam on the Nagi river and the land is the property of the Irrigation Department of Bihar State Government. However, an area of 191.51 hectare (1.915 km2) was declared as Bird Sanctuary by Government of Bihar in the year 1987. However, the area is ephemeral and it has, over time, increased to 211.770 hectare. Due to the importance of the area for migratory birds, the administrative control from the sanctuary point of view lies under Divisional Forest Officer. There are agriculture fields in one side of the reservoir which is owned by private or individual owners.

#### 5.1.2 - Management authority

agency or organization responsible for	Principial Chief Conservator of Forest, Environment, Climate Change & Wetland, Department of Environment, Forest and Climate Change, Bihar, India Bihar State Wetland Authority, Bihar, India
Provide the name and/or title of the person or people with responsibility for the wetland:	Divisional Forest Officer, Jamui Forest Division, Jamui, Bihar, India
Postal address:	Divisional Forest Office, Jamui (Near Ashok Town Hall) Pin Code-811307
E-mail address:	jamuidfo@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
Unspecified development	Medium impact	Medium impact		×

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Drainage	Medium impact	High impact		<b>X</b>
Water abstraction	Medium impact	High impact		V

Agriculture and aquaculture				
Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Annual and perennial non- timber crops	Medium impact	Medium impact	×	V
Livestock farming and ranching	Medium impact	Medium impact	×	V
Marine and freshwater aquaculture	Medium impact	Medium impact	×	V

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	Medium impact	×	×
Unspecified	Medium impact	Medium impact	s de la constante de la consta	×

#### Human intrusions and disturbance

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Unspecified/others	High impact	High impact	×	<b>X</b>

Natural system modifications

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Dams and water management/use	High impact	High impact	×	×
Vegetation clearance/ land conversion	High impact	High impact	×	×

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	High impact	High impact	×	×
Problematic native species	High impact	High impact	×	×

## 5.2.2 - Legal conservation status

National legal designations			
Designation type	Name of area	Online information url	Overlap with Ramsar Site
Wildlife Sanctuary	Nagi-Nakti Bird Sanctuary	naginaktibirdsanctuary.bihar.gov.in	whole

Designation type	Name of area	Online information url	Overlap with Ramsar Site
Important Bird Area	Nagi and Nakti Bird Sanctuary	http://datazone.birdlife.org/sit e/factsheet/nagi-dam-and-nakti-d am- bird-sanctuary-iba-india	whole
Other non-statutory designation	Nagi and Nakti Bird Sanctuary	https://www.keybiodiversityareas .org/site/factsheet/18116	whole

#### 5.2.3 - IUCN protected areas categories (2008)

- la Strict Nature Reserve
- Ib Wilderness Area: protected area managed mainly for wilderness protection
  - Il 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
Catchment management initiatives/controls	Proposed
Improvement of water quality	Proposed
Habitat manipulation/enhancement	Proposed
Hydrology management/restoration	Proposed

#### Species

	Measures	Status	
Control of invasive alien plants		Proposed	
	Control of invasive alien animals	Proposed	

#### Human Activities

Measures	Status
Regulation/management of wastes	Proposed
Livestock management/exclusion (excluding fisheries)	Proposed
Fisheries management/regulation	Proposed
Communication, education, and participation and awareness activities	Proposed
Research	Proposed
Regulation/management of recreational activities	Proposed

### 5.2.5 - Management planning

Is there a site-specific management plan for the site? Yes

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

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

Please indicate if a Ramsar centre, other educational or visitor facility, or an educational or visitor programme is associated with the site:

No

URL of site-related webpage (if relevant): naginaktibirdsanctuary.bihar.gov.in

#### 5.2.6 - Planning for restoration

Is there a site-specific restoration plan? Yes, there is a plan

#### 5.2.7 - Monitoring implemented or proposed

Monitoring	Status
Water quality	Proposed
Plant species	Proposed
Soil quality	Proposed
Birds	Implemented

Impact of Climate Change on the Ecological Characteristic of the Wetland: Although, there is no specific targeted approach being taken to target the impact of Climate Change on wetland ecology, efforts have been made through plantation of native ficus species, installation of bamboo parks, awareness drives among locals towards organic farming, enforcement of rules and laws to prevent burning of crop stubble in the nearby villages etc.

# 6 - Additional material

# 6.1 - Additional reports and documents

### 6.1.1 - Bibliographical references

1. Management Plan of Nagi and Nakti Birds Sanctuary, Jamui, (Bihar): Department of Environment and Forests Government of Bihar 2019-2020 to 2028-29.

2. Rahmani, A.R., Islam, M.Z. and Kasambe, R.M. (2016) Important Bird and Biodiversity Areas in India: Priority Sites for Conservation (Revised and updated). Bombay Natural History Society, Indian Bird Conservation Network, Royal Society for the Protection of Birds and BirdLife International (U.K.). Pp. 1992 + xii

3. O N Maurya (2019): Indicative Flora of Eco-Sensitive Zone of Nagi Bird Sanctuary, Jamui district, Bihar.Central National Herbarium Botanical Survey of India, Howrah.

4. Sunil Choudhary (2016): Nagi Nakti Bird Sanctuary Management Plan: Primarydata on water quality and plankton. Technical Report · April 2016. DOI: 10.13140/RG.2.1.1421.6562

5. Amrita Laha and Nita Shah (2022): Baseline documentation of the socio -ecological dynamics around select four wetlands in Bihar, Technical Report. August 2022. https://www.researchgate.net/publication/362695019

#### 6.1.2 - Additional reports and documents

i. taxonomic lists of plant and animal species occurring in the site (see section 4.3)  $^{<1}$  file(s) uploaded>

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

Sunset at Nagi ( DFO Jamui

iv. relevant Article 3.2 reports

<no file available> v. site management plan

<1 file(s) uploaded>

vi. other published literature <1 file(s) uploaded>

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

Please provide at least one photograph of the site:









Pied Kingfisher ( DFO Jamui, 22-4-2021 )



Common Pochard ( DFO Jamui, 22-4-2021 )

### 6.1.4 - Designation letter and related data

#### Designation letter

<1 file(s) uploaded

Date of Designation 2023-10-11