



Ramsar Information Sheet

India

Nandur Madhameshwar



Designation date	21 June 2019
Site number	2410
Coordinates	20°01'18"N 74°06'24"E
Area	1 437,00 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

Nandur Madhameshwar, located 40 km away from Nashik town (Maharashtra) and at the confluence of Godavari and Kadawa River, is a mosaic of marshes, intermittent pools and riparian forests. Juxtaposed to the rain shadow semi-arid area of Western Ghats within the Deccan Plateau, the wetland has a species assemblage representing both of these biogeographic zones. Recorded species richness here includes at least 536 species of aquatic and terrestrial plants, eight species of mammals, 265 species of birds, 24 species of freshwater fishes and 41 species of butterflies. Of the recorded birds, 148 inhabiting the wetland are migratory. Nandur-Madheshwar teems with waterbirds in winter, where their numbers invariably exceed 20,000 individuals. The wetland serves as a habitat for a number of species of high global conservation significance, including one globally vulnerable plant species (Indian sandalwood), two critically endangered birds (white-rumped vulture and Indian vulture), one endangered bird (Egyptian vulture), one critically endangered fish (Deolali minnow) and one vulnerable mammal (leopard). The wetland has been designated as Nandur Madhameshwar Wildlife Sanctuary (NMWLS) for protecting, propagating and developing wildlife therein. The wetland is a critical water resource for humans as well as numerous animal and plant species, which depend on its habitat for sustenance. It is also a popular tourism destination, especially for nature-lovers and bird-watchers.

2 - Data & location

2.1 - Formal data

2.1.1 - Name and address of the compiler of this RIS

Compiler 1

Name	Mr. Bharat Baburao Shinde
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2.1.2 - Period of collection of data and information used to compile the RIS

From year	2013
To year	2017

2.1.3 - Name of the Ramsar Site

Official name (in English, French or Spanish)	Nandur Madhameshwar
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2.2 - Site location

2.2.1 - Defining the Site boundaries

b) Digital map/image
<2 file(s) uploaded>

Former maps	0
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Boundaries description

Nandur Madhameshwar lies between 20O 02' 34.05" N (North), 74O 08' 52.34" E (East) and 20O 00' 08.57" N (South), 74O 03' 31.38" E (West).
 North- Boundaries of Kothure, Kurudgaon, Kathargaon and Dindori villages,
 East- Boundaries of Dindori, Nandur Madhameshwar and Khangaon Thadi villages,
 South- Boundaries of Khangaon Thadi, Manjargaon and Chapadgaon villages,
 West- Boundaries of Karanjaon, Shingve and Kothure villages of Niphad Taluka.
 The wetland boundary coincides with the boundary of Nandur Madheshwar Wildlife Sanctuary.

2.2.2 - General location

a) In which large administrative region does the site lie?	Maharashtra, India
b) What is the nearest town or population centre?	Niphad, Nashik

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):	1437
Area, in hectares (ha) as calculated from GIS boundaries	1437.156

2.2.5 - Biogeography

Biogeographic regions

Regionalisation scheme(s)	Biogeographic region
Freshwater Ecoregions of the World (FEOW)	713:Northern Deccan Plateau
Other scheme (provide name below)	6 Deccan Peninsula Zone

Other biogeographic regionalisation scheme

Nandur Madhameshwar wetland falls under 6 Deccan Peninsula Zone as per Biogeographic Classification of India (Rodgers, Panwar and Mathur, 2002).

3 - Why is the Site important?

3.1 - Ramsar Criteria and their justification

<no data available>

Criterion 2 : Rare species and threatened ecological communities

Criterion 3 : Biological diversity

Justification

The wetland is rich in biodiversity, and has species assemblages representing the Western Ghats as well as the Deccan Plateau Biogeographic Zones of India. Till now 536 species of aquatic and terrestrial plants, eight species of mammals, 265 species of birds, 24 species of freshwater fishes, 41 species of butterflies have been recorded from the area. At least one species of plant, four species of birds and four species of fishes are endemic to India. Besides this, Nandur Madhameshwar wetland is utilized by wetland dependent species especially birds during migration season from October to March over the years. Out of 265 bird species which visit Nandur Madhameshwar wetland, 148 species are migratory.

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

Criterion 5 : >20,000 waterbirds

Overall waterbird numbers 35571 (2017)

Start year 2013

Source of data: Annual Waterbird Count conducted at Nandur Madhameshwar Wildlife Sanctuary since 1987

Criterion 6 : >1% waterbird population

Criterion 7 : Significant and representative fish

Justification

Central Institute of Fisheries Education, Mumbai has recorded 24 fish species from ten families at Nandur Madhameshwar wetland. Being located at about 100 kms from origin of River Godavari at conjunction of Western Ghats and Deccan Peninsula Biogeographic Zones of India, the wetland has fish assemblage of both zones. All 24 species are native including four species namely, *Ompok malabaricus*, *Parapsilorhynchus prateri* and *Rasbora labiosa* endemic to Western Ghats whereas *Salmophasia novacula* are endemic to the Deccan Peninsula. Two globally threatened fish species found at Nandur Madhameshwar wetland, out of which *Parapsilorhynchus prateri* is Critically Endangered and currently known only from upper Godavari River basin up to Nandur Madhameshwar whereas *Pethia shalynius* is a vulnerable species. Of the 91 species from 23 families recorded by <http://www.fishbase.org> from Godavari river basin, Nandur Madhameshwar host 15 (16.48%) species from six (26.09%) families. Cypriniformes is a largest group accounting 45.83% followed by Perciformes (20.83%), Siluriformes (12.5%), Synbranchiformes (8.33%), Osteoglossiformes (8.33%) and Beloniformes (4.17%).

Criterion 8 : Fish spawning grounds, etc.

Justification

Nandur Madhameshwar Wetland is a water-spread area of Nandur Madhameshwar pick up weir and is connected outside by Godavari river and its tributaries at upstream and Godavari river and two canals at downstream. As fishing is prohibited at Nandur Madhameshwar, it acts as a refuge for fish from the outside areas with high pressure fishing activities. The wetland helps to protect fish species until they mature and reach breeding stage. The productive and shallow habitats resulted from continuous accumulation of silt are extensively used as feeding and spawning grounds and nurseries by fishes during rainy season. The occurrence of *Ompok malabaricus*, *Parapsilorhynchus prateri* and *Rasbora labiosa* are endemic to Western Ghats and other native fishes at Nandur Madhameshwar is proof that the Site is vital for food, spawning and migration path on which fish stocks, within and outside the sanctuary depends.

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>Cyathocline purpurea</i>	Gangotra	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	LC	<input type="checkbox"/>		Endemic to Maharashtra. Source: http://bsienvs.nic.in/Database/E_3942.aspx#di Maharashtra
<i>Santalum album</i>	Indian Sandalwood	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VU	<input type="checkbox"/>		The IUCN Red List of Threatened Species 1998

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								
Birds																		
CHORDATA/AVES	<i>Aquila hastata</i>	Indian Spotted Eagle	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				VU	<input type="checkbox"/>	<input type="checkbox"/>	Schedule I Species of Wildlife Protection ACT, 1972	Criteria 2: The IUCN Red List of Threatened Species 2016/ Assessment Information/ Justification. Criteria 3: being globally threatened and using this wetland during their life cycle, contributing to biodiversity of the wetland.
CHORDATA/AVES	<i>Aquila heliaca</i>	Eastern Imperial Eagle; Asian Imperial Eagle	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				VU	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Schedule I Species of Wildlife Protection ACT, 1972, .	CITES Appendix I Species CMS Appendix I Species Criteria 4: Wetland is used as a wintering site for the species, Criteria 3: Species contributes to biodiversity of the site.
CHORDATA/AVES	<i>Aythya ferina</i>	Common Pochard	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3888	AWC 2009	1.22	VU	<input type="checkbox"/>	<input type="checkbox"/>	Schedule IV Species of Wildlife Protection ACT, 1972	Criteria 4: The wetland is used as a wintering site for the species; Criteria 5: this species contribute to total number of water birds at site.
CHORDATA/AVES	<i>Aythya nyroca</i>	Ferruginous Duck	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				NT	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Schedule IV Species of Wildlife Protection ACT, 1972	Criteria 2: CMS Appendix I Species Criteria 4: Wetlands is an important wintering site for this species , Criteria 5: contribute to total numbers of waterbirds at site
CHORDATA/AVES	<i>Chaetornis striata</i>	Bristled Grassbird	<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"/>				VU	<input type="checkbox"/>	<input type="checkbox"/>		Criteria 2: The IUCN Red List of Threatened Species 2017/ Assessment Information/ Justification. Criteria 3: being globally threatened and using this wetland during their life cycle
CHORDATA/AVES	<i>Ciconia ciconia</i>	White Stork	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	29	AWC 2009	1.16	LC	<input type="checkbox"/>	<input type="checkbox"/>	Schedule I Species of Wildlife Protection ACT, 1972	Criteria 4: bird relevant to Ramsar Convention Criteria 5: contribute to total numbers of waterbirds at site Criteria 6: 1 % threshold for Asiatica is 25 as per WPE-5 in 2012.
CHORDATA/AVES	<i>Ciconia episcopus</i>	Woolly-necked Stork	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				VU	<input type="checkbox"/>	<input type="checkbox"/>	Schedule IV Species of Wildlife Protection ACT, 1972	Criteria 2: The IUCN Red List of Threatened Species 2017/ Assessment Information/ Justification. Criteria 3: contributes to biodiversity of the wetland, Criteria 4: wetland is wintering site for this species

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								
CHORDATA/AVES	<i>Coracias garrulus</i>	European Roller	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Schedule IV Species of Wildlife Protection ACT, 1972	Criteria 2: CMS Appendix I Species Criteria 3: contributes to biodiversity of the wetland Criteria 4: migratory and use wetland as migration stopover
CHORDATA/AVES	<i>Falco jugger</i>	Laggar Falcon	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				NT	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Schedule I Species of Wildlife Protection ACT, 1972	Criteria 2: CITES Appendix I Species
CHORDATA/AVES	<i>Falco peregrinus</i>	Peregrine Falcon	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Schedule I Species of Wildlife Protection ACT, 1972	Criteria 2: CITES Appendix I Species Criteria 4: migratory and use wetland as migration stopover Criteria 3: contributes to biodiversity of the wetland
CHORDATA/AVES	<i>Galerida deva</i>	Sykes's Lark	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC	<input type="checkbox"/>	<input type="checkbox"/>	Schedule IV Species of Wildlife Protection ACT, 1972	Criteria 3: Endemic to India and contributes to biodiversity of the site
CHORDATA/AVES	<i>Galerida malabarica</i>	Malabar Lark	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC	<input type="checkbox"/>	<input type="checkbox"/>	Schedule IV Species of Wildlife Protection ACT, 1972	Criteria 3: Endemic to India and contributes to biodiversity of the site
CHORDATA/AVES	<i>Grus grus</i>	Common Crane	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1200	AWC 2010	1.71	LC	<input type="checkbox"/>	<input type="checkbox"/>	Schedule IV Species of Wildlife Protection ACT, 1972	Criteria 4: Wetland is a wintering site for species. Criteria 5: contribute to total numbers of waterbirds at site Criteria 6: 1 % threshold for South Asia is 700 as per WPE-5 in 2012.
CHORDATA/AVES	<i>Gyps bengalensis</i>	White-rumped Vulture	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				CR	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Schedule I Species of Wildlife Protection ACT, 1972	Criteria 2: The IUCN Red List of Threatened Species 2016/ Assessment Information/ Justification. Criteria 3: Contributes to biodiversity of the wetland
CHORDATA/AVES	<i>Gyps indicus</i>	Indian Vulture	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				CR	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Schedule I Species of Wildlife Protection ACT, 1972	Criteria 2: The IUCN Red List of Threatened Species 2016/ Assessment Information/ Justification. Criteria 3: contributes to biodiversity of the wetland
CHORDATA/AVES	<i>Leptocoma minima</i>	Crimson-backed Sunbird	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC	<input type="checkbox"/>	<input type="checkbox"/>	Schedule IV Species of Wildlife Protection ACT, 1972	Criteria 3: Endemic to India and contributes to biodiversity of the wetland
CHORDATA/AVES	<i>Neophron percnopterus</i>	Egyptian Vulture	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				EN	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Schedule I Species of Wildlife Protection ACT, 1972	Criteria 2: The IUCN Red List of Threatened Species 2017/ Assessment Information/ Justification. CMS Appendix I Species Criteria 3: contributes to biodiversity of the site, 4: migratory and use wetland as migration stopover
CHORDATA/AVES	<i>Pelecanus onocrotalus</i>	Great White Pelican	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>				LC	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Schedule IV Species of Wildlife Protection ACT, 1972	Criteria 2: CMS Appendix I Species Criteria 4: wetland is a wintering site for the species, Criteria 5: contribute to total numbers of waterbirds at site
CHORDATA/AVES	<i>Platalea leucorodia</i>	Eurasian Spoonbill	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	391	AWC 2015	1.7	LC	<input type="checkbox"/>	<input type="checkbox"/>	Schedule I Species of Wildlife Protection ACT, 1972	Criteria 4: wetland is used as a wintering site by the species. Criteria 5: contribute to total numbers of waterbirds at site Criteria 6: 1 % threshold for South –West Asia and South Asia is 230 as per WPE-5 in 2012.
CHORDATA/AVES	<i>Plegadis falcinellus</i>	Glossy Ibis	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	695	AWC 2009	2.78	LC	<input type="checkbox"/>	<input type="checkbox"/>	Schedule IV Species of Wildlife Protection ACT, 1972	Criteria 4: wetland is used as a wintering site for the species Criteria 5: contribute to total numbers of waterbirds at site Criteria 6: 1 % threshold for South and South East Asia (Non Breeding) is 250 as per WPE-5 in 2012.
CHORDATA/AVES	<i>Pomatorhinus horsfieldii</i>	Indian Scimitar Babbler	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				LC	<input type="checkbox"/>	<input type="checkbox"/>	Schedule IV Species of Wildlife Protection ACT, 1972	Criteria 3: Endemic to India and contributes to biodiversity of the site
Fish, Mollusc and Crustacea																	
CHORDATA/ACTINOPTERYGII	<i>Ompok malabaricus</i>	Butter catfish	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				LC	<input type="checkbox"/>	<input type="checkbox"/>		Criteria 3: contributes to biodiversity, criteria 7: Species is endemic to Maharashtra. Criteria 8: Site is important source of food, spawning ground and nursery of this species

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								
CHORDATA/ ACTINOPTERYGII	<i>Parapsilorhynchus prateri</i>	Deolali minnow	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	2	2009		CR	<input type="checkbox"/>	<input type="checkbox"/>		Criteria 2: The IUCN Red List of Threatened Species 2011/ Assessment Information/ Justification. Criteria 3: contributes to biodiversity of the site and 7: <i>Parapsilorhynchus prateri</i> is endemic to the Western Ghats of Maharashtra. It is currently known only from Darna River in upper Godavari River basin, Deolali, Nasik District, Maharashtra State, India. It also found in Nandur Madhameshwar Criteria 8: Site is important source of food, spawning ground and nursery of this species
CHORDATA/ ACTINOPTERYGII	<i>Pethia shalynius</i>	Shalyni barb	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				VU	<input type="checkbox"/>	<input type="checkbox"/>		Criteria 2: The IUCN Red List of Threatened Species 2011/ Assessment Information/ Justification. Criteria 3: Contributes to biodiversity of the site.
CHORDATA/ ACTINOPTERYGII	<i>Rasbora labiosa</i>	Slender rasbora	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				LC	<input type="checkbox"/>	<input type="checkbox"/>		Criteria 3 : contributes to biodiversity of the site. Criteria 7: Species is endemic to Maharashtra. Criteria 8: Site is important source of food, spawning ground and nursery of this species
CHORDATA/ ACTINOPTERYGII	<i>Salmostoma novacula</i>	Novacula razorbelly minnow	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					<input type="checkbox"/>	<input type="checkbox"/>		Criteria 3 and 7:: Species is endemic to Maharashtra. Criteria 8: Site is important source of food, spawning ground and nursery of this species
Others																	
CHORDATA/ MAMMALIA	<i>Panthera pardus</i>	Leopard	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				VU	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Schedule I Species of Wildlife Protection ACT, 1972	Criteria 2: The IUCN Red List of Threatened Species 2016/ Assessment Information/ Justification. CITES Appendix I 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

Nandur Madhameshwar wetland is a mosaic of marshes, intermittent pools and riparian forests. The permanent freshwater lakes, marshes, pools and rivers are the major wetland habitat types, which support a variety of plant and animal communities. The wet meadows, seasonal/intermittent marshes, pools and streams form minor wetland types in which ecological communities from Riparian Forest and Vernal Pools survive. The exposed streambed below the weir contains small water ponds and mud flats, which are frequented by waders. During peak monsoon, the entire wetland barring the reserved forest area is inundated. The water gradually recedes during winter, exposing intermittent pools. The water level fluctuates by over half a meter during September - March due to periodic release of water from the weir, and water received from upstream dams. The wetland is also known for providing variety of ecosystem services like regulating services (recharging of ground water, climate regulation, safety from floods), supporting services (facilitating nutrient recycling, soil formation, providing habitat to flora and fauna) and cultural services (providing recreational and tourism opportunities, supporting spiritual and cultural practices, facilitating scientific research).

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 >> M: Permanent rivers/ streams/ creeks	Nadi Nala	3		
Fresh water > Lakes and pools >> O: Permanent freshwater lakes		1		
Fresh water > Lakes and pools >> P: Seasonal/ intermittent freshwater lakes		4		
Fresh water > Lakes and pools >> T _p : Permanent freshwater marshes/ pools		2		
Fresh water > Marshes on inorganic soils >> T _s : Seasonal/ intermittent freshwater marshes/ pools on inorganic soils		4		

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
2: Ponds		2		
6: Water storage areas/Reservoirs		1		
9: Canals and drainage channels or ditches		4		

Other non-wetland habitat

Other non-wetland habitats within the site	Area (ha) if known
Reserved Forest	55.067

4.3 - Biological components

4.3.1 - Plant species

Invasive alien plant species

Scientific name	Common name	Impacts	
<i>Agave americana</i>	American Aloe	No impacts	No change
<i>Ageratum conyzoides</i>	Billy Goat Weed	No impacts	No change
<i>Alternanthera philoxeroides</i>	Alligator Weed	No impacts	No change
<i>Cestrum nocturnum</i>	Night Blooming Jasmine	No impacts	No change
<i>Cryptostegia grandiflora</i>	Rubber Vine	No impacts	No change
<i>Cyperus rotundus</i>	Nutgrass	No impacts	No change
<i>Eichhornia crassipes</i>	Water Hyacinth	No impacts	No change
<i>Lantana camara</i>	Big-sage	No impacts	No change
<i>Leucaena leucocephala</i>	Subabul	No impacts	No change
<i>Parthenium hysterophorus</i>	Congress Grass	No impacts	No change
<i>Prosopis chilensis</i>	Chilean mesquite	No impacts	No change
<i>Ricinus communis</i>	Castrobean	No impacts	No change
<i>Vachellia farnesiana</i>	Sweet Acacia	No impacts	No change

4.3.2 - Animal species

Invasive alien animal species

Phylum	Scientific name	Common name	Impacts	
CHORDATA/AVES	<i>Acridotheres tristis</i>	Common Myna	No impacts	No change
CHORDATA/AVES	<i>Columba livia</i>	Common Pigeon	No impacts	No change
CHORDATA/AVES	<i>Pycnonotus jocosus</i>	Red-whiskered Bulbul	No impacts	No change

4.4 - Physical components

4.4.1 - Climate

Climatic region	Subregion
B: Dry climate	BSh: Subtropical steppe (Low-latitude dry)

The climate of the area is generally dry, except during South-West monsoon season. The maximum temperature in summer is 42.5 degree Celsius and minimum temperature in winter is less than 5.0 degree Celsius. The region receives around 750 mm of rainfall, most of which is concentrated during monsoon period.

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.

Basin - Godavari River Basin
 Sub-basin - Upper Godavari River Basin

4.4.3 - Soil

Mineral

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

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 rainfall	<input checked="" type="checkbox"/>	No change
Water inputs from surface water	<input checked="" type="checkbox"/>	No change

Water destination

Presence?	
To downstream catchment	No change

Stability of water 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 water level is largely stable with some fluctuations in the month of April and May, if water rotation from upstream dams is not on time and in the years of low rainfall.

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

(ECD) Water turbidity and colour

Turbidity of 2.47 Nephelometric Turbidity Units, Colour of 1 Hazen Unit (Source: Monthly Water Sample Results, 2015)

(ECD) Water temperature

Average 25 degree celsius

4.4.6 - Water pH

Acid (pH<5.5)

Circumneutral (pH: 5.5-7.4)

Alkaline (pH>7.4)

Unknown

Please provide further information on pH (optional):

Data Year: 2013 to 2017

Source: Maharashtra Pollution Control Board Website.<http://mpcb.gov.in/envtdata/wqwebpg.php?rgnid=18>

4.4.7 - Water salinity

Fresh (<0.5 g/l)

Mxohaline (brackish)/Mxosaline (0.5-30 g/l)

Euhaline/Eusaline (30-40 g/l)

Hyperhaline/Hypersaline (>40 g/l)

Unknown

Please provide further information on salinity (optional):

Source: Monthly Water Sample Results, 2015.

4.4.8 - Dissolved or suspended nutrients in water

Eutrophic

- Mesotrophic
- Oligotrophic
- Dystrophic
- Unknown

Please provide further information on dissolved or suspended nutrients (optional):

Although specific assessments on nutrients have not been carried out, algal blooms are noted when the water recedes during summer.

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)	Low
Fresh water	Drinking water for humans and/or livestock	High
Fresh water	Water for irrigated agriculture	High

Regulating Services

Ecosystem service	Examples	Importance/Extent/Significance
Maintenance of hydrological regimes	Groundwater recharge and discharge	Medium
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
Climate regulation	Local climate regulation/buffering of change	Medium
Biological control of pests and disease	Support of predators of agricultural pests (e.g., birds feeding on locusts)	High
Hazard reduction	Flood control, flood storage	Medium

Cultural Services

Ecosystem service	Examples	Importance/Extent/Significance
Recreation and tourism	Picnics, outings, touring	Medium
Recreation and tourism	Nature observation and nature-based tourism	High
Spiritual and inspirational	Cultural heritage (historical and archaeological)	Low
Spiritual and inspirational	Spiritual and religious values	Low
Spiritual and inspirational	Aesthetic and sense of place values	Medium
Scientific and educational	Educational activities and opportunities	Medium
Scientific and educational	Important knowledge systems, importance for research (scientific reference area or site)	Medium
Scientific and educational	Long-term monitoring site	Medium
Scientific and educational	Major scientific study site	Low

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	Medium

Within the site:

Outside the site:

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
- 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"/>

Private ownership

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

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

Presently land within the Ramsar Site is held by three departments of State Government namely Irrigation Department, Revenue Department and Forest Department.

An area of around 10 ha of the wetland is under private ownership. The surrounding area is entirely under private ownership.

5.1.2 - Management authority

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

Office of Conservator of Forests (Wildlife), Nashik

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

Mr. Bharat Baburao Shinde, Assistant Conservator of Forests, Nandur Madhameshwar Wildlife Sanctuary.

Postal address:

Office of Conservator of Forest (Wildlife), Nashik
Aranya Sankul, Old Agra Road, Trambak Naka, Nashik
PIN Code: 422002

E-mail address:

cfwnashik@mahaforest.gov.in

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
Tourism and recreation areas	Low impact	unknown impact	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Housing and urban areas	Low impact	unknown impact	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Water regulation

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Canalisation and river regulation	Medium impact	unknown impact	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Drainage	Low impact	unknown impact	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Water abstraction	Medium impact	unknown impact	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Water releases	Low impact	unknown impact	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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	unknown impact	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Livestock farming and ranching	Medium impact	unknown impact	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Marine and freshwater aquaculture	Low impact	unknown impact	<input checked="" 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	Low impact	unknown impact	<input checked="" 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	unknown 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	Low impact	unknown impact	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Natural system modifications

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Dams and water management/use	Medium impact	unknown impact	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Vegetation clearance/ land conversion	Low impact	unknown impact	<input 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
Introduced genetic material	Low impact	unknown impact	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Invasive non-native/ alien species	Medium impact	unknown 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
Household sewage, urban waste water	Medium impact	unknown impact	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Industrial and military effluents	Medium impact	unknown impact	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Agricultural and forestry effluents	Medium impact	unknown impact	<input checked="" 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
Droughts	Low impact	unknown impact	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Temperature extremes	Low impact	unknown impact	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Habitat shifting and alteration	Low impact	unknown impact	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Storms and flooding	Medium impact	unknown impact	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

5.2.2 - Legal conservation status

National legal designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
Wildlife Sanctuary	Nandur Madhameshwar Wildlife Sanctuary	http://www.mahaforest.nic.in/sanctuary_detail.php?lang_eng_mar=Mar&sat_id=21&sid=33	whole

Non-statutory designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
Important Bird Area	IN164	http://datazone.birdlife.org/site/factsheet/nandur-madhmeshwar-wildlife-sanctuary-iba-india	partly

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
Catchment management initiatives/controls	Implemented
Improvement of water quality	Partially implemented
Habitat manipulation/enhancement	Partially implemented
Hydrology management/restoration	Partially implemented
Soil management	Proposed
Land conversion controls	Proposed
Faunal corridors/passage	Proposed

Species

Measures	Status
Control of invasive alien plants	Partially implemented

Human Activities

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

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 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

URL of site-related webpage (if relevant):

5.2.6 - Planning for restoration

Is there a site-specific restoration plan? No, but restoration is needed

Further information

Silt management and control of invasive species spread needs to be addressed to ensure that maintenance of wetland ecological character.

5.2.7 - Monitoring implemented or proposed

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

6 - Additional material

6.1 - Additional reports and documents

6.1.1 - Bibliographical references

BirdLife International (2017). Important Bird Areas factsheet: Nandur Madhmeshwar Wildlife Sanctuary. Downloaded from <http://www.birdlife.org> on 17/06/2017.

CIFE (2011). Final Report Assessment of Riverine Fisheries and Linking With Water Quality Restoration Programme- River Godavari in Maharashtra. Retrieved from <http://mpcb.gov.in/images/pdf/RiverGodavari.pdf>

Fishes of Godavari River Basin (2017). Retrieved from http://www.fishbase.se/trophicco/FishEcoList.php?ve_code=78

Invasive Alien Species of India (2017). Retrieved from <http://issg.org/database/species/search.asp?st=sss&sn=&rn=India&ri=19429&hci=1&ei=-1&fr=1&sts=&lang=EN>

Migratory and Waterbirds relevant to Ramsar Convention in India (2017). Retrieved from <http://datazone.birdlife.org/species/search>

Rodgers, W.A. and H.S. Panwar (1988). Planning a Wildlife Protected Area Network in India. Vol. 1 and 2. A report prepared for the Department of Environment, Forests and Wildlife, Government of India at the Wildlife Institute of India, Dehradun.

Rodgers, W.A., H.S. Panwar and Vinod B. Mathur (2002). Wildlife Protected Area Network in India: A Review (Executive Summary), Wildlife Institute of India, Dehradun.

Strategic Framework and guidelines for the future development of the List of Wetlands of International Importance of the Convention on Wetlands (Ramsar, Iran, 1971)- 2012 Revision (2012). Retrieved from <http://archive.ramsar.org/pdf/cop11/res/cop11-res08-e-anx2.pdf>

The IUCN Red List of Threatened Species in India (2017). Retrieved from <http://www.iucnredlist.org/search>

The CITES Appendices (2017). Retrieved from <https://cites.org/eng/app/appendices.php>

The CMS Appendices (2017). Retrieved from <http://www.cms.int/en/page/appendix-i-ii-cms>

Wetlands International (2017). "Waterbird Population Estimates". Retrieved from wpe.wetlands.org on Monday 5 Jun 2017

6.1.2 - Additional reports and documents

- i. taxonomic lists of plant and animal species occurring in the site (see section 4.3)
<5 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
<1 file(s) uploaded>
- iv. relevant Article 3.2 reports
<no file available>
- v. site management plan
<2 file(s) uploaded>
- vi. other published literature
<9 file(s) uploaded>

6.1.3 - Photograph(s) of the Site

Please provide at least one photograph of the site:



Rosy Starling Flock (Bharat Shinde, 10-01-2017)



Ducks Assemblage (Bharat Shinde, 10-01-2017)



Birds Flock (Bharat Shinde, 22-01-2017)



Riverine Forest (Bharat Shinde, 22-01-2017)



NMMLS Wetland Aerial View (Bharat Shinde, 22-01-2017)



Common Crane Flock (Bharat Shinde, 19-01-2017)



Small Pratincole Flock (Bharat Shinde, 21-01-2017)

6.1.4 - Designation letter and related data

Designation letter

<1 file(s) uploaded>

Date of Designation