Ramsar Information Sheet

Published on 31 October 2022

India

Vaduvur Bird Sanctuary

Designation date	8 April 2022
Site number	2493
Coordinates	10°42'10"N 79°18'59"E
Area	112,64 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

Vaduvur bird sanctuary spreads over an area of 112.638 ha, is a large human-made irrigation tank and shelter for migratory birds as it provides a suitable environment for food, shelter, and breeding ground. It is situated in Needamangalam taluk, Thiruvarur district. Surrounding vast agricultural fields during monsoon and abundance of aquatic insects attracts numerous birds making it a favourable feeding place. It is 20 km away from Thanjavur town. The site is rich in aquatic flora and fauna including migratory species. It is part of the Cauvery delta and hence dependent on the release of water from Mettur dam. The southern branch of the Cauvery drains into the districts of Thanjavur, Trichy, and Tiruvarur and has a lot of smaller rivers and tributaries referred to by local, historical names. The Kannanar and Vadavar canals are the main source of water to Vaduvur, in addition to the North-East monsoon. Locally known as the Old Vadavar canal and Kannanar pallam, the drainage is all along the Western border of the wetland (North-West to South-West). Being a freshwater habitat, no seasonal fluctuation in salinity is observed. It is surrounded by a large bund on the southern side and a short bund on the northern side, as the elevation serves as a natural bund. Bunds help in holding the water up to a depth of 2.5 m. Four outlets and discharge canals are present. Potable groundwater is available at a depth of about 20-50m. The peak flow into the canal is for a period of 15-20 days post-mid-June every year when water from Mettur dam is released. From Vaduvur, the water drains on easterly drainage into a series of wetlands such as Edaimelayur, Edaikeelayur, Kattakudi eri, Karakotai eri, Ponnaganni Eri, Sirumanaglam eri, Minal eri, etc.
Due to increasing anthropogenic pressure, irreparable damage to this fragile ecosystem including the flow and character of the river has occurred. To conserve this ecosystem, powers conferred by Section (3) of the Environment (Protection) Act 1986 (29) of 1986, the Govt. of India vide its notification dated 13th September 2019, Vaduvur Bird Sanctuary has been declared as an Eco-sensitive zone from an ecological and environmental point of view. Besides, it is considered an area of national importance by MoEFCC, India, and internationally, as an Important Bird and Biodiversity Area (IBA) and also a Key Biodiversity Area.

2 - Data & location

2.1 - Formal data

2.1.1 - Name and address of the compiler of this RIS

Responsible compiler

Institution/agency: Tamil Nadu State Wetalnd Authority

Postal address:
O/o Additional Principal Chief Conservator of Forests & Member Secretary No.1, Jeenis Road,
Panagal Building, VIII Floor,
Saidapet,
Chennai 600 015
Tamil Nadu, INDIA

National Ramsar Administrative Authority

Institution/agency: Ministry of Environment, Forest & Climate Change

Postal address:
Ministry of Environment, Forest and Climate Change
Indira Paryavaran Bhavan
Jorbagh Road
New Delhi - 110 003
INDIA

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

From year: 2002

To year: 2021

2.1.3 - Name of the Ramsar Site

Official name (in English, French or Spanish): Vaduvur Bird Sanctuary

2.2 - Site location

2.2.1 - Defining the Site boundaries

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

Former maps: 0

Boundaries description:
The Vaduvur Sanctuary is located to the west of the Thanjavur - Mannargudi highway of Thiruvarur District of Tamil Nadu and is located about 22 km from Thanjavur on Thanjavur – Mannargudi Highway (SH 63) and about 45 km from Tiruvarur, about 58 km from Udayamarthandapuram Birds sanctuary and 50 km from Point Calimere Birds Sanctuary Block A. It is located to the north of agricultural fields and to the east of the Nevivasal village. The drainage is all along the Western border of the wetland (North-West to the South-West).

2.2.2 - General location

a) In which large administrative region does the site lie?: Is located on Thanjavur-Mannargudi highway, Thiruvarur District, Tamil Nadu; 22km from Thanjavur on Thanjavur–Mannargudi highway(SH-63), 45km from Thiruvarur, 58km from Udayamarthandapuram Bird Sanctuary& 50km from Point Calimere Sanctuary Block A

b) What is the nearest town or population centre?: Eight villages that surround the proposed Site (within 3km radius) include: 1. Vaduvur Agraharam, 2. Vaduvur melpadhi, 3. Vaduvur Vadapathi, 4. Vaduvur Thenpathi, 5. Kondaiyur, 6.Vaduvur Pudukottai, 7. Neivasal and 8. Arasampattu.

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): 112.638

Area, in hectares (ha) as calculated from GIS boundaries: 112.638

2.2.5 - Biogeography

Biogeographic regions

Regionalisation scheme(s)	Biogeographic region
WWF Terrestrial Ecoregions	Specifically falls under Indo-Malayan Ecoregion & sub-region East Deccan Dry evergreen Forest type; mostly converted to agriculture or degraded; >95% is deforested; remaining forests are scattered small fragments; subjected to heavy deforestation& grazing
Freshwater Ecoregions of the World (FEOW)	South-eastern Ghats-716

Other biogeographic regionalisation scheme

The sanctuary falls under East coast biogeography zone as defined by the Wildlife Institute of India and the Eastern Ghats and Tamil Nadu Uplands and Deccan (Karnataka) Plateau, hot semiarid eco-region (H1D2) [Tamil Nadu Uplands and Plains, hot moist semi-arid ESR with deep red loamy soils, low AWC and LGP 120-150 days (H1Dm4)] as defined by ICAR. The predominant vegetation in this area is Acacia nilotica. Black cotton soil and sandy alluvium are the two main soil types found in the tank. Fresh alluvium soil is deposited every year by irrigation water received from Mettur dam. Humus content of soil is low but calcium content is high possibly due to accumulation of bird droppings and skeletal remains of aquatic life forms.

Source:
Karthi N., Vachanth M.C. and Sridharan G. (2013) Studies on phytoplankton diversity in Vaduvur Lake at Thiruvarur District, Tamil Nadu, India, Biological Science 3, 2013, Pp. 227- 230.
Arivoli K. and Narasimmarajan K. (2021). The smooth-coated otter (Lutrogale perspicillate) from Vaduvur Birds Sanctuary, Thiruvarur District, Tamil Nadu, Southern India, IUCN otter spec. Group Bull. (2)
Arivoli K. and Narasimmarajan K. (2021). An account of Ichthyo faunal diversity in Vaduvur Birds Sanctuary, Thiruvarur District, Tamil Nadu, Southern India, International Journal of Aquatic Biology 8 (a) : Pp. 308 - 311

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	The wetland supports IUCN global conservational significant species like Tephrosia purpurea, Aythya ferina, and Sterna aurantia.

☑ Criterion 3 : Biological diversity

Justification	Vaduvur Bird Sanctuary sustains a spectacular congregation of waterbirds and waders within the Eastern Coast. The wetland supports significant populations of species like Tephrosia purpurea, Actitis hypoleucos, Alcedo atthis, Anser indicus, Ardea cinerea, Ardea purpurea, Bubulcus ibis, Ceryle rudis, Charadrius dubius, Chlidonias hybrida, Halcyon smyrnensis, Hydrophasianus chirurgus, Limosa limosa, Metopidius indicus, Mycteria leucocephala, Numenius phaeopus, Pelecanus philippensis, Sterna aurantia, Tringa glareola, Tringa ochropus, Tringa stagnatilis, Tringa tetanus, and Vanellus malabaricus, which is representative and significantly helps in maintaining the biodiversity of the region owing to a large variety of ecological functions performed by the above-mentioned diverse range of species.

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

Optional text box to provide further information	Vaduvur Bird Sanctuary has a diverse habitat including a number of inlets and surrounding irrigated agricultural fields which provides good nesting and foraging habitats for birds. This diversity of habitats enable the wetland to act as an important breeding site for many species like AAmaurornis phoenicurus, Anas acuta, Anas clypeata, Anas crecca, Anastomus oscitans, Anhinga anhinga, Ardea alba, Ardeola ralloides, Aythya farina, Calidris minuta, Egretta garzetta, Fulica atra, Himantopus Himantopus, Microcarbo niger, Nettapus coromandelianus, Sarkidiornis melanotos, Sternula albifrons, Tachybaptus ruficollis, Threskiornis melanocephalus, Tringa nebularia, and Vanellus vanellus. Thus, the site provides support to the species listed above during critical stages of their life-cycle.

☑ Criterion 5 : >20,000 waterbirds

Overall waterbird numbers	30117
Start year	2016
End year	2022
Source of data:	State Forest Department

Optional text box to provide further information

The overall waterbird number indicated above is the average annual bird count reported by the State Forest Department in 2016, 2019 and 2022 respectively. Species which contribute to this criteria include Actitis hypoleucos, Alcedo atthis, Amaurornis phoenicurus, Anas acuta, Anas crecca, Anastomus oscitans, Anhinga anhinga, Anser indicus, Ardea alba, Ardea cinerea, Ardea intermedia, Ardea purpurea, Ardeola ralloides, Aythya ferina, Bubulcus ibis, Calidris minuta, Ceryle rudis, Charadrius dubius, Chlidonias hybrida, Dendrocygna javanica, Egretta garzetta, Fulica atra, Gallinula chloropus, Halcyon smyrnensis, Himantopus Himantopus, Hydrophasianus chirurgus, Limosa limosa, Metopidius indicus, Microcarbo niger, Mycteria leucocephala, Nettapus coromandelianus, Numenius phaeopus, Nycticorax nycticorax, Pelecanus philippensis, Platalea leucorodia, Plegadis falcinellus, Porphyrio porphyrio, Sarkidiornis melanotos, Spatula clypeata, Sterna aurantia, Sternula albifrons, Tachybaptus ruficollis, Threskiornis melanocephalus, Tringa glareola, Tringa nebularia, Tringa ochropus, Tringa stagnatilis, Tringa tetanus, Vanellus malabaricus, and Vanellus vanellus.

☑ Criterion 6 : >1% waterbird population

Optional text box to provide further information

The site regular supports more than 1% threshold population of Threskiornis melanocephalus, Microcarbo niger, and Egretta garzetta.

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	*Tephrosia purpurea*	☑	☑	☐	EN	☐	Listed as Endemic under IUCN and available in the BSI Portal	An indigenous species, serving as roosting vegetation for the visiting birds. Has strong positive correlation with the vegetation structure of the site and the bird diversity Used by local communities as cattle feed, manure, fish poison, as well as in ethnomedicine

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

Phylum	Scientific 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	*Actitis hypoleucos*	☐	☐	☐	☐	☑	☑	☐	☐	50	2016 - 2022		LC	☐	☐		Uses the site as a breeding and nesting ground and is representative of the biodiversity of the region.
CHORDATA / AVES	*Alcedo atthis*	☐	☐	☐	☐	☑	☑	☐	☐	20	2016 - 2022		LC	☐	☐		Uses the site as a breeding and nesting ground and is representative of the biodiversity of the region.
CHORDATA / AVES	*Amaurornis phoenicurus*	☐	☑	☐	☐	☐	☑	☐	☐	606	2016 - 2022		LC	☐	☐		Uses the site as a breeding and nesting ground and is representative of the biodiversity of the region.
CHORDATA / AVES	*Anas acuta*	☐	☑	☐	☐	☐	☑	☐	☐	2376	2016 - 2022		LC	☐	☐		Uses the site as a breeding and nesting ground and is representative of the biodiversity of the region.
CHORDATA / AVES	*Anas clypeata*	☐	☑	☐	☐	☐	☑	☐	☐	2683	2016 - 2022			☐	☐		Uses the site as a breeding and nesting ground and is representative of the biodiversity of the region.
CHORDATA / AVES	*Anas crecca*	☐	☑	☐	☐	☐	☑	☐	☐	3560	2016 - 2022		LC	☐	☐		Uses the site as a breeding and nesting ground and is representative of the biodiversity of the region.

Phylum	Scientific 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								
CHORDATA / AVES	*Anastomus oscitans*	☐	☑	☐	☐	☐	☑	☐	☐	1306	2016 - 2022		LC	☐	☐		Uses the site as a breeding and nesting ground and is representative of the biodiversity of the region.
CHORDATA / AVES	*Anhinga anhinga*	☐	☑	☐	☐	☐	☑	☐	☐	106	2016 - 2022		LC	☐	☐		Uses the site as a breeding and nesting ground and is representative of the biodiversity of the region.
CHORDATA / AVES	*Anser indicus*	☐	☐	☐	☐	☑	☑	☐	☐	22	2016 - 2022		LC	☐	☐		Uses the site as a breeding and nesting ground and is representative of the biodiversity of the region.
CHORDATA / AVES	*Ardea alba*	☐	☑	☐	☐	☐	☑	☐	☐	266	2016 - 2022		LC	☐	☐		Uses the site as a breeding and nesting ground and is representative of the biodiversity of the region.
CHORDATA / AVES	*Ardea cinerea*	☐	☐	☐	☐	☑	☑	☐	☐	89	2016 - 2022		LC	☐	☐		Uses the site as a breeding and nesting ground and is representative of the biodiversity of the region.
CHORDATA / AVES	*Ardea purpurea*	☐	☐	☐	☐	☑	☑	☐	☐	54	2016 - 2022		LC	☐	☐		Uses the site as a breeding and nesting ground and is representative of the biodiversity of the region.
CHORDATA / AVES	*Ardeola ralloides*	☐	☑	☐	☐	☐	☑	☐	☐	259	2016 - 2022		LC	☐	☐		Uses the site as a breeding and nesting ground and is representative of the biodiversity of the region.
CHORDATA / AVES	*Aythya ferina*	☑	☑	☐	☐	☐	☑	☐	☐	107	2016 - 2022		VU	☐	☐		Uses the site as a breeding and nesting ground and is representative of the biodiversity of the region.
CHORDATA / AVES	*Bubulcus ibis*	☐	☐	☐	☐	☑	☑	☐	☐	1863	2016 - 2022		LC	☐	☐		Uses the site as a breeding and nesting ground and is representative of the biodiversity of the region.
CHORDATA / AVES	*Calidris minuta*	☐	☑	☐	☐	☐	☑	☐	☐	467	2016 - 2022		LC	☐	☐		Uses the site as a breeding and nesting ground and is representative of the biodiversity of the region.
CHORDATA / AVES	*Ceryle rudis*	☐	☐	☐	☐	☑	☑	☐	☐	12	2016 - 2022		LC	☐	☐		Uses the site as a breeding and nesting ground and is representative of the biodiversity of the region.
CHORDATA / AVES	*Charadrius dubius*	☐	☐	☐	☐	☑	☑	☐	☐	19	2016 - 2022		LC	☐	☐		Uses the site as a breeding and nesting ground and is representative of the biodiversity of the region.
CHORDATA / AVES	*Chlidonias hybrida*	☐	☐	☐	☐	☑	☑	☐	☐	5	2016 - 2022		LC	☐	☐		Uses the site as a breeding and nesting ground and is representative of the biodiversity of the region.
CHORDATA / AVES	*Dendrocygna javanica*	☐	☐	☐	☐	☐	☑	☐	☐	73	2016 - 2022		LC	☐	☐		Uses the site as a breeding and nesting ground and is representative of the biodiversity of the region.
CHORDATA / AVES	*Egretta garzetta*	☐	☑	☑	☐	☐	☑	☐	☐	2166	2016 - 2022	3.61	LC	☐	☐		Uses the site as a breeding and nesting ground and is representative of the biodiversity of the region.
CHORDATA / AVES	*Egretta intermedia*	☐	☐	☐	☐	☐	☑	☐	☐	391	2016 - 2022			☐	☐		Uses the site as a breeding and nesting ground and is representative of the biodiversity of the region.
CHORDATA / AVES	*Fulica atra*	☐	☑	☐	☐	☐	☑	☐	☐	1618	2016 - 2022		LC	☐	☐		Uses the site as a breeding and nesting ground and is representative of the biodiversity of the region.
CHORDATA / AVES	*Gallinula chloropus*	☐	☐	☐	☐	☐	☑	☐	☐	82	2016 - 2022		LC	☐	☐		Uses the site as a breeding and nesting ground and is representative of the biodiversity of the region.
CHORDATA / AVES	*Halcyon smyrnensis*	☐	☐	☐	☐	☑	☑	☐	☐	37	2016 - 2022		LC	☐	☐		Uses the site as a breeding and nesting ground and is representative of the biodiversity of the region.

Phylum	Scientific 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								
CHORDATA / AVES	*Himantopus himantopus*	☐	☑	☐	☐	☐	☑	☐	☐	418	2016 - 2022		LC	☐	☐		Uses the site as a breeding and nesting ground and is representative of the biodiversity of the region.
CHORDATA / AVES	*Hydrophasianus chirurgus*	☐	☐	☐	☐	☑	☑	☐	☐	47	2016 - 2022		LC	☐	☐		Uses the site as a breeding and nesting ground and is representative of the biodiversity of the region.
CHORDATA / AVES	*Limosa limosa*	☐	☐	☐	☐	☑	☑	☐	☐	37	2016 - 2022		NT	☐	☐		Uses the site as a breeding and nesting ground and is representative of the biodiversity of the region.
CHORDATA / AVES	*Metopidius indicus*	☐	☐	☐	☐	☑	☑	☐	☐	4	2016 - 2022		LC	☐	☐		Uses the site as a breeding and nesting ground and is representative of the biodiversity of the region.
CHORDATA / AVES	*Microcarbo niger*	☐	☑	☑	☐	☐	☑	☐	☐	2762	2016 - 2022	1.84	LC	☐	☐		Uses the site as a breeding and nesting ground and is representative of the biodiversity of the region.
CHORDATA / AVES	*Mycteria leucocephala*	☐	☐	☐	☐	☑	☑	☐	☐	18	2016 - 2022		NT	☐	☐		Uses the site as a breeding and nesting ground and is representative of the biodiversity of the region.
CHORDATA / AVES	*Nettapus coromandelianus*	☐	☑	☐	☐	☐	☑	☐	☐	358	2016 - 2022		LC	☐	☐		Uses the site as a breeding and nesting ground and is representative of the biodiversity of the region.
CHORDATA / AVES	*Numenius phaeopus*	☐	☐	☐	☐	☑	☑	☐	☐	1	2016 - 2022		LC	☐	☐		Uses the site as a breeding and nesting ground and is representative of the biodiversity of the region.
CHORDATA / AVES	*Nycticorax nycticorax*	☐	☐	☐	☐	☐	☑	☐	☐	477	2016 - 2022		LC	☐	☐		Uses the site as a breeding and nesting ground and is representative of the biodiversity of the region.
CHORDATA / AVES	*Pelecanus philippensis*	☐	☐	☐	☐	☑	☑	☐	☐	11	2016 - 2022		NT	☐	☐		Uses the site as a breeding and nesting ground and is representative of the biodiversity of the region.
CHORDATA / AVES	*Platalea leucorodia*	☐	☐	☐	☐	☐	☑	☐	☐	164	2016 - 2022		LC	☐	☐		Uses the site as a breeding and nesting ground and is representative of the biodiversity of the region.
CHORDATA / AVES	*Plegadis falcinellus*	☐	☐	☐	☐	☐	☑	☐	☐	325	2016 - 2022		LC	☐	☐		Uses the site as a breeding and nesting ground and is representative of the biodiversity of the region.
CHORDATA / AVES	*Porphyrio porphyrio*	☐	☐	☐	☐	☐	☑	☐	☐	138	2016 - 2022		LC	☐	☐		Uses the site as a breeding and nesting ground and is representative of the biodiversity of the region.
CHORDATA / AVES	*Sarkidiornis melanotos*	☐	☑	☐	☐	☐	☑	☐	☐	222	2016 - 2022		LC	☐	☐		Uses the site as a breeding and nesting ground and is representative of the biodiversity of the region.
CHORDATA / AVES	*Sterna aurantia*	☑	☐	☐	☐	☑	☑	☐	☐	18	2016 - 2022		VU	☐	☐		This vulnerable species uses the site as a breeding and nesting ground and is representative of the biodiversity of the region.
CHORDATA / AVES	*Sternula albifrons*	☐	☑	☐	☐	☐	☑	☐	☐	148	2016 - 2022		LC	☐	☐		Uses the site as a breeding and nesting ground and is representative of the biodiversity of the region.
CHORDATA / AVES	*Tachybaptus ruficollis*	☐	☑	☐	☐	☐	☑	☐	☐	119	2016 - 2022		LC	☐	☐		Uses the site as a breeding and nesting ground and is representative of the biodiversity of the region.
CHORDATA / AVES	*Threskiornis melanocephalus*	☐	☑	☐	☐	☐	☑	☐	☐	6181	2016 - 2022		NT	☐	☐		Uses the site as a breeding and nesting ground and is representative of the biodiversity of the region.
CHORDATA / AVES	*Tringa glareola*	☐	☐	☐	☐	☑	☑	☐	☐	20	2016 - 2022		LC	☐	☐		Uses the site as a breeding and nesting ground and is representative of the biodiversity of the region.

Phylum	Scientific 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								
CHORDATA / AVES	*Tringa nebularia*	☐	☑	☐	☐	☐	☑	☐	☐	186	2016 - 2022		LC	☐	☐		Uses the site as a breeding and nesting ground and is representative of the biodiversity of the region.
CHORDATA / AVES	*Tringa ochropus*	☐	☐	☐	☐	☑	☑	☐	☐	6	2016 - 2022		LC	☐	☐		Uses the site as a breeding and nesting ground and is representative of the biodiversity of the region.
CHORDATA / AVES	*Tringa stagnatilis*	☐	☐	☐	☐	☑	☑	☐	☐	82	2016 - 2022		LC	☐	☐		Uses the site as a breeding and nesting ground and is representative of the biodiversity of the region.
CHORDATA / AVES	*Tringa totanus*	☐	☐	☐	☐	☑	☑	☐	☐	7	2016 - 2022		LC	☐	☐		Uses the site as a breeding and nesting ground and is representative of the biodiversity of the region.
CHORDATA / AVES	*Vanellus malabaricus*	☐	☐	☐	☐	☑	☑	☐	☐	18	2016 - 2022		LC	☐	☐		Uses the site as a breeding and nesting ground and is representative of the biodiversity of the region.
CHORDATA / AVES	*Vanellus vanellus*	☐	☑	☐	☐	☐	☑	☐	☐	113	2016 - 2022		NT	☐	☐		Uses the site as a breeding and nesting ground and is representative of the biodiversity of the region.

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

Vaduvur wetland in the Thiruvarur district belongs to the semi-arid region of Thiruvarur in the southern Indian state of Tamil Nadu and consists of wetlands in the form of manmade irrigation tanks, interconnected by an ancient network of canals, and fed by the Mettur dam. The wetland supports a diverse variety of floral and faunal population. The natural vegetation comprises emergent, floating and submerged plant species distributed almost throughout the site and form associations of different species. Their distribution is essentially related to water regimes. The rooted floating-leaf types commonly found in the bird sanctuary area are: Nymphaea stellata, Nelumbium speciosum, Nymphoides indicum, Ipomoea aquatica, Neptunia oleracia, Ludwigia adsc endens, Pseudoraphis spinosus and Echinochloa colonum. Among the aquatic communities submerged and the free-floating macrophytes are less productive compared to other plant communities in spite of their prolific growth and spread in the aquatic systems, as they contain very little dry matter. Around 118 species of birds have been recorded in the site belonging to 87 genera, 48 families and 18 orders. Notable species include spot-billed pelican and black-headed ibis. Along with these, large concentrations of water birds such as Indian pond heron, Eurasian wigeon , Northern Pintail, Garganey have been recorded.

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		1	112.638

(ECD) Habitat connectivity	Main source of water for wetland is rainfall, surrounding runoff from catchment area& Vadavur &Cauvery River channels. Water in the wetland is intermittent, present only for a 6-8 month period; water from the wetland helps replenish the groundwater

4.3 - Biological components

4.3.1 - Plant species

Other noteworthy plant species

Phylum	Scientific name	Position in range / endemism / other
TRACHEOPHYTA/MAGNOLIOPSIDA	*Alternanthera sessilis*	Exclusively endemic to this region.
TRACHEOPHYTA/MAGNOLIOPSIDA	*Argemone mexicana*	Exclusively endemic to this region.
TRACHEOPHYTA/MAGNOLIOPSIDA	*Azadirachta indica*	Exclusively endemic to this region.
TRACHEOPHYTA/MAGNOLIOPSIDA	*Boerhavia diffusa*	Exclusively endemic to this region.
TRACHEOPHYTA/LILIOPSIDA	*Borassus flabellifer*	Exclusively endemic to this region.
TRACHEOPHYTA/MAGNOLIOPSIDA	*Cardiospermum halicacabum*	Exclusively endemic to this region.
TRACHEOPHYTA/MAGNOLIOPSIDA	*Cassia fistula*	Exclusively endemic to this region.

Invasive alien plant species

Phylum	Scientific name	Impacts
TRACHEOPHYTA/MAGNOLIOPSIDA	*Prosopis juliflora*	Actual (major impacts)

Optional text box to provide further information

The introduction of this invasive species to address erosion problems, has turned this into an invader species. It has started off invading the river banks and slowly extended to the agricultural lands, as well as adjacent dryland areas. The negative impacts of this species are that its rapid spread has a bearing on the Ecosystem Services. Despite partially the invasion offsets by provisioning of firewood and charcoal needs of the local communities, there is difficulty in controlling its rapid growth as the threats to Ecosystems Service, people's livelihoods and lifestyles exceed the benefits it may offer.

4.3.2 - Animal species

Other noteworthy animal species

Phylum	Scientific name	Pop. size	Period of pop. est.	% occurrence	Position in range /endemism/other
CHORDATA/ACTINOPTERYGII	*Alcolapia alcalica*				Exclusively endemic to this region.
CHORDATA/ACTINOPTERYGII	*Anguilla bengalensis*				Exclusively endemic to this region.
CHORDATA/ACTINOPTERYGII	*Channa punctata*				Exclusively endemic to this region.
CHORDATA/ACTINOPTERYGII	*Channa striata*				Exclusively endemic to this region.
CHORDATA/ACTINOPTERYGII	*Pethia conchonius*				Exclusively endemic to this region.
CHORDATA/ACTINOPTERYGII	*Puntius sophore*				Exclusively endemic to this region.
CHORDATA/ACTINOPTERYGII	*Trichogaster lalius*				Exclusively endemic to this region.

Invasive alien animal species

Phylum	Scientific name	Impacts
CHORDATA/MAMMALIA	*Canis lupus familiaris*	Actual (minor impacts)
CHORDATA/ACTINOPTERYGII	*Cyprinus carpio*	Actual (major impacts)
CHORDATA/ACTINOPTERYGII	*Oreochromis niloticus*	Actual (major impacts)

Optional text box to provide further information

The presence of carp makes the water more turbid, increases the algal blooms, resulting in decreased growth of aquatic macrophytes. Excess nutrients entering the wetland and the feeding habits of the carp result in suspension of sediment and nutrients. The nutrients fuel the algal blooms, which reduce the water quality and ultimately eliminates the submerged aquatic vegetation. With the loss of submerged vegetation, the water quality continues to deteriorate and fish species and quality declines.

4.4 - Physical components

4.4.1 - Climate

Climatic region	Subregion
A: Tropical humid climate	Aw: Tropical savanna (Winter dry season)

The are predominately experiences a Tropical savanna type of climate with an average annual rainfall of 1129 mm

4.4.2 - Geomorphic setting

a) Minimum elevation above sea level (in metres): 36

a) Maximum elevation above sea level (in metres): 38

- 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.

Vaduvur sanctuary is part of the Cauvery delta system and hence dependent on the release of water from the Mettur dam. Southern branch of the Cauvery drains into the districts of Thanjavur, Trichy and Tiruvarur& has a lot of smaller rivers and tributaries which are referred by local, historical names. The Kannanar and Vadavar canals are main sources of water to Vaduvur wetland in addition to NE. Locally known as the Old Vadavar canal and Kannanar pallam, the drainage is all along Western border (North-West to the South-West). The peak flow into the canal is for a period of 15-20 days post June 12 every year when water from the Mettur dam is released. From Vaduvur sanctuary, water drains on an easterly drainage into a series of wetlands such as Edaimelayur, Edaikeelayur, Kattakudi eri, Karakotai eri, Ponnaganni Eri, Sirumanaglam eri, Minal eri, etc. Vaduvur was historically evolved as a human-made irrigation tank.

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 seasonal, ephemeral or intermittent 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

Stability of water regime

Presence?	
Water levels fluctuating (including tidal)	No change

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

Water source maintaining the site: of The main source of water for the wetland is Rainfall, groundwater, the surrounding runoff from the catchment area and, from the Mettur Dam. The water in the wetland is mostly of intermittent nature with frequent occasions of drying, as the wetland is mostly dependent on the rainfall and runoff waters. the replenishes the groundwater.

The water from the wetland is not used for drinking purpose. Agriculture is undertaken around and the wetland and ground water used for irrigation. The wetland plays the primary role of buffering by acting as a sponge during events of floods and extreme rainfall. It is a major source of ground water recharge. There is significant runoff from the surrounding catchment and the wetland acts as a sink for sediments.

(ECD) Connectivity of surface waters and of groundwater: Water from rainfall help in replenishing the groundwater

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: Water colour is light blue and grey-green; turbidity not measured

(ECD) Water temperature: Average temperature of water not known

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):

The pH of the water was 8.8

4.4.7 - Water salinity

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

4.4.8 - Dissolved or suspended nutrients in water

Eutrophic ☐
Mesotrophic ☑
Oligotrophic ☐
Dystrophic ☐
Unknown ☐

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

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

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 ☐

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

Sanctuary terrain-flat with a gentle slope from N to S with 38m elevation ASL. Bulk of impounded water collects in deep southern part; original depth lost due to heavy siltation; receives water from Mettur dam, 52km from Salem, 270km downstream of Karnataka-T.Nadu border, river emerges from Eastern Ghats; is at an elevation of 243m, is an 85m long masonry dam, 1615m long earth dam& 70.4m high. Rising above Cauvery River bed, dam-constructed across two E.Ghat hills; stores high flows during SW monsoon; distributes evenly during irrigation period, provided by Grand anaicut canals, helps stabilize irrigation in the delta &extend to new areas; dam caters to one third of the State's irrigated area besides generating hydroelectric power.
Vaduvur maintains connections with many wetlands-Point Calimere Wildlife& Bird Sanctuary, Panchanathikulam, Udayamarthandapuram bird sanctuary &beyond, linking migratory bird paths/ ideal locations of "stop over" for wintering grounds attracting several migratory birds, supporting V, EN & NT ecological communities.
Sanctuary encompasses floodplains &agricultural ecosystems. Waterbird population trends reflect habitat quality; breeding site quality-related to water levels, precipitation& climate. Habitat type& zonation is diverse:-(1)Mounds planted with Acacia nilotica: used by large waterbirds like White Ibis, Asian Openbill for nesting/roosting (2)Islands planted with grasses: used as breeding sites by ground nesting species. Waders, Terns use as roosts for 'loafing' (3)Emergent sedges, rushes& grassy banks: attracts waders, provides cover for waterbirds& nesting sites. Ducks, Moorhens, Coots use open water for loafing, feed on emergent vegetation& grassy banks. Ibis, Herons, Swamp hens feed on fringing vegetation (4)Deep open water: attracts diving waterbirds-Coots, Cormorants& some Ducks that dive for bottom-dwelling fauna/aquatic vegetation; waterbirds like Terns feed on surface fishes& (5)Open grassland: attracts terrestrial birds

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

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
Climate regulation	Local climate regulation/buffering of change	High
Climate regulation	Regulation of greenhouse gases, temperature, precipitation and other climactic processes	High
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	High

Cultural Services

Ecosystem service	Examples	Importance/Extent/Significance
Recreation and tourism	Picnics, outings, touring	High
Recreation and tourism	Nature observation and nature-based tourism	High

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	Accumulation of organic matter	High
Nutrient cycling	Storage, recycling, processing and acquisition of nutrients	High
Nutrient cycling	Carbon storage/sequestration	High
Pollination	Support for pollinators	High

Within the site: 1000

Outside the site: 10000

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 ☑

Description if applicable

Vaduvur Birds Sanctuary is a unique sanctuary actively protected and managed by the forest department and the Vaduvur village community. This is one of the largest breeding water birds reserves in Tamil Nadu and attracts more than one fifty thousand birds annually. It is significant that the local people have taken keen interest in protecting this sanctuary and live with the birds in a total symbiotic relationship. There is a need to monitor the wetland on a regular basis to identify more important sites and understand the ecological importance of the tanks better. Vaduvur consists of Acacia nilotica planted by the Forest Department. These trees, used by birds for nesting and roosting are eventually harvested making the tank devoid of nesting habitats. Agriculture is undertaken around and the wetland and the ground water are used for irrigation. The wetland plays the primary role of buffering by acting as a sponge during events of floods and extreme rainfall. It is a major source of ground water recharge. There is significant runoff from the surrounding catchment area and the wetland acts as a sink for sediments. The wetland surroundings are used by locals for agriculture and water is extraction for this purpose. The wetland provides a suitable habitat for birds as per the recordings of the local and migratory bird species. The wetland supports diverse fish species.

ii) the site has exceptional cultural traditions or records of former civilizations that have influenced the ecological character of the wetland ☑

Description if applicable

Point (i) under section 4.5.2 covers the points relating to humans influencing the ecological character of the wetland. In addition to the points mentioned in (i), the wetland has a temple and few cultural activities are organized here during specific festivals.

iii) the ecological character of the wetland depends on its interaction with local communities or indigenous peoples ☑

Description if applicable

As mentioned above, the local population are engaged in agricultural activities, and so are dependent completely on the sanctuary for irrigation and livestock purposes.

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 ☑

Description if applicable

A few cultural activities are organized in the temple near the sanctuary during specific festival times.

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	☑	☑
Local authority, municipality, (sub)district, etc.	☑	☑

5.1.2 - Management authority

Please list the local office / offices of any agency or organization responsible for managing the site: Tamil Nadu Forest Department, Thiruvarur District

Provide the name and/or title of the person or people with responsibility for the wetland: District Forest Officer, Thiruvarur Division

Postal address:
O/o The District Forest Officer,
Thiruvarur Division,
Thiruvarur – 610 004,
Tamil Nadu
INDIA

E-mail address: dfothiruvarur@gmail.com

5.2 - Ecological character threats and responses (Management)

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

Human settlements (non agricultural)

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Housing and urban areas	Medium impact		☐	☑

Water regulation

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Drainage	Medium impact		☐	☑
Water abstraction	Medium impact		☐	☑
Salinisation	Medium impact		☐	☑
Water releases	Medium impact		☑	☑

Agriculture and aquaculture

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Livestock farming and ranching	Medium impact		☑	☑

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		☐	☑

Human intrusions and disturbance

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Recreational and tourism activities	Medium impact		☑	☑

Natural system modifications

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Vegetation clearance/ land conversion	Medium 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	Medium impact		☑	☑

Pollution

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Agricultural and forestry effluents	Medium impact		☐	☑
Garbage and solid waste	Medium impact		☐	☑

Climate change and severe weather

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Storms and flooding	Medium impact		☑	☑
Habitat shifting and alteration	Medium impact		☐	☑
Droughts	Medium impact		☑	☑
Temperature extremes	Medium impact		☑	☑

5.2.2 - Legal conservation status

National legal designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
Comes under the Indian Wildlife Protection Act, 1972	Vaduvur Bird Sanctuary	https://legislative.gov.in/sites/default/files/A1972-53_0.pdf	whole
For conserving the site, powers conferred by Section(3) of Environment (Protection) Act 1986(29) of 1986, Govt. of India vide its notification dtd.13-Sep-2019, total area of 128.10 ha stretch of the Sanctuary-declared as an Eco-Sensitive Zone	Vaduvur Bird Sanctuary	https://moef.gov.in/wp-content/uploads/2018/12/vaduvoor-1.pdf	whole
Vaduvur wetland complex was declared as a bird Sanctuary in 1999 (Protected Area) notified under Wild Life Protection Act 1972 (Central Act 53 of 1972)	Vaduvur Bird Sanctuary	http://www.wiienvis.nic.in/Database/Tamil_Nadu_7838.aspx	whole

Non-statutory designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
Important Bird Area	Vaduvur Bird Sanctuary	http://datazone.birdlife.org/site/factsheet/vaduvoor-lake-bird-sanctuary-iba-india	whole

5.2.3 - IUCN protected areas categories (2008)

Ia Strict Nature Reserve ☐

Ib Wilderness Area: protected area managed mainly for wilderness protection ☐

II National Park: protected area managed mainly for ecosystem protection and recreation ☐

III Natural Monument: protected area managed mainly for conservation of specific natural features ☐

IV Habitat/Species Management Area: protected area managed mainly for conservation through management intervention ☐

V Protected Landscape/Seascape: protected area managed mainly for landscape/seascape conservation and recreation ☐

VI Managed Resource Protected Area: protected area managed mainly for the sustainable use of natural ecosystems ☐

<no data available>

5.2.4 - Key conservation measures

Legal protection

Measures	Status
Legal protection	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 ◉

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

There is no Current communications, Education and public awareness programmes (CEPA) are undertaken in this wetland area.

5.2.6 - Planning for restoration

Is there a site-specific restoration plan? No need identified

5.2.7 - Monitoring implemented or proposed

<no data available>

6 - Additional material

6.1 - Additional reports and documents

6.1.1 - Bibliographical references

• Arivoli K. and Narasimmarajan K. (2021). The smooth-coated otter (Lutrogale perspicillate) from Vaduvur Birds Sanctuary, Thiruvarur District, Tamil Nadu, Southern India, IVCN otter spec. Group Bull. 38 (2)
• Arivoli K. and Narasimmarajan K. (2021). An account of Ichthyofaunal diversity in Vaduvur Birds Sanctuary, Thiruvarur District, Tamil Nadu, Southern India, International Journal of Aquatic Biology 8 (a) : Pp. 308 - 311
• Karthi N., Vachanth M.C. and Sridharan G. (2013) Studies on phytoplankton diversity in Vaduvur Lake at Thiruvarur District, Tamil Nadu, India, Biological Science 3, 2013, Pp. 227-230.
• Krishma Mili, Sangram Keshari Rout, Debasmita Jana, Annupama R.R. and Sriparna Chakraborty (2017) Assessing the Phytoplankton Population of Hard Water Ponds in Eastern Kolkata, India, Environment & Ecology, 35(4B), 3087-3092, Oct-Dec 2017, ISSN 0970-0420.
• Prasad S.N., Jaggi A.K., Kaushik P., Vijayan L., Muralidharan S. and Vijayan V.S. (2004) Inland wetlands of India, Conservation Atlas, Salim Ali Centre for Ornithology and Natural History, Coimbatore, India, 222.
• Thirumalai P. and Kumar S.M. (2017) Changing cropping pattern in Thiruvarur district using GIS, International Journal of Humanities and Social Science Research, ISSN: 2455-2070; Volume 3; Issue 2; February 2017;Pp. 89-95.
• Vijayan V.S., Narendra Prasad S., Lalitha V. and Muralidharan S. (2004) Inland wetlands of India: Conservation Priorities. SACON, pp. 532.

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
<no file available>

iv. relevant Article 3.2 reports
<no file available>

v. site management plan
<1 file(s) uploaded>

vi. other published literature
<no file available>

6.1.3 - Photograph(s) of the Site

Please provide at least one photograph of the site:

Panoramic View of Vaduvur Bird Sanctuary (*Tamil Nadu State Wetland Authority, 27-10-2021*)

Black headed Ibis nest (*Tamil Nadu Forest Department, Thiruvarur, 27-10-2021*)

Herons foraging (*Tamil Nadu State Wetland Authority, 27-10-2021*)

Panoramic view of the sanctuary (*Tamil Nadu State Wetland Authority, 27-10-2021*)

Nesting Site (*Tamil Nadu State Wetland Authority, 27-10-2021*)

6.1.4 - Designation letter and related data

Designation letter
<1 file(s) uploaded>

Date of Designation	2022-04-08