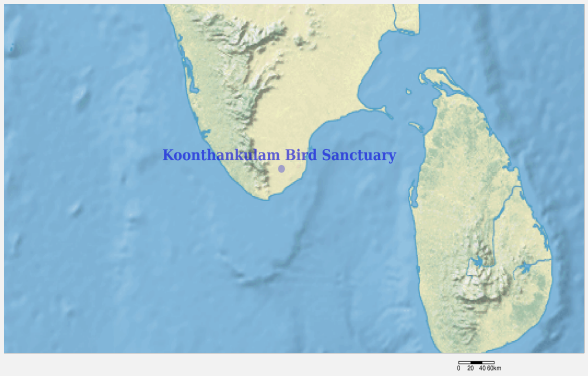
Ramsar Information Sheet

Published on 3 August 2022

India

Koonthankulam Bird Sanctuary



Designation date	8 November 2021
Site number	2479
Coordinates	08°29'44"N 77°45'14"E
Area	72,04 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

Koonthankulam Bird Sanctuary or Kunthankulam is an important human-made wetland in the state of Tamil Nadu. Spreading over 72.04 ha, the wetland is located near Koonthankulam village in Nanguneri Taluk of Tirunelveli district. The wetland was declared as a bird sanctuary in 1994 and comes under the jurisdiction of Tamil Nadu Water resources department (PWD) and Tamil Nadu Forest Department, Tirunelveli district. This is the largest reserve for breeding resident and migratory water birds in South India. It is an Important Bird and Biodiversity Area forming part of the Central Asian Flyway, code: IN269, criteria: A1, A4i. The inland tank was built few centuries ago, interconnected by canals that bring water from the rivers originating in the Western Ghats. These rivers and tanks support rich social and cultural heritage and economically support agriculture, the major source of people's livelihood. There are two outlets on the eastern side for water regulation and irrigation. It irrigates about 190 acres of paddy. While socio-economic and cultural significance exist, very little is known about their ecological importance. The site experiences tropical humid climate, receiving water only through seasonal rainfall ranging from 750-850 mm. The wetland supports a rich diversity of flora-mix of trees, shrubs, herbs, climbers, creepers and pteridophytes. At least 69 floral and 92 faunal species have been recorded from the site. Presence of IUCN classified near threatened migratory birds makes the site important and requires long-term conservation of water birds, besides being part of Central Asian Flyway. The major sources of water for the wetland is rainfall, groundwater, surrounding runoff from catchment and Manimutharu Dam, enhancing groundwater recharge. The wetland acts as a sink for sediments. This wealthy ecosystem has presently come under threat because of encroachments, increasing shrimp farms and other anthropogenic activities.

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 Wetland 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:
Office of the Additional Secretary, 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: 2001

To year: 2021

2.1.3 - Name of the Ramsar Site

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

Unofficial name (optional): Kunthankulam

2.2 - Site location

2.2.1 - Defining the Site boundaries

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

Former maps: 0

Boundaries description

Koonthankulam Bird Sanctuary or Kunthankulam is a Protected Area and declared as a sanctuary in 1994. It adjoins the tiny village of Koonthankulam in the Nanguneri Taluk of Tirunelveli district, Tamil Nadu, India (Survey No. 254). The sanctuary is about just 38 km away from Tirunelveli, which is a bustling town on the banks of the Thambarabarani River. It is composed of Koonthankulam and Kadankulam irrigation tanks, linked by a well laid tar road. Koonthakulam is situated in the western side of the village. The village is surrounded by Munanjipatti in the north; Kaluvur, Pappankulam in the south; Pathaikulam in the east; Mankulam in the west.

2.2.2 - General location

a) In which large administrative region does the site lie? Tirunelveli district

b) What is the nearest town or population centre? Koonthankulam village

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): 72.04

Area, in hectares (ha) as calculated from GIS boundaries: 72.047

2.2.5 - Biogeography

Biogeographic regions

Regionalisation scheme(s)	Biogeographic region
WWF Terrestrial Ecoregions	Tropical and subtropical moist broadleaf forest
Freshwater Ecoregions of the World (FEOW)	Southeastern Ghats

Other biogeographic regionalisation scheme

Koonthankulam belongs to Semi-Arid region of Tirunelveli district classified under the above terrestrial ecoregions of the world and is highly influenced by the Western Ghats located nearby. It consists of wetlands in the form of irrigation tanks, interconnected by an ancient network of canals and fed by the rivers originating from the Western Ghats. This wetland is encompassed by the Western Ghats on the west and the Bay of Bengal on the east. This region is known as the rice bowl of southern Tamil Nadu, made possible by the many rivers that originate in the Agasthyamalai Hills, and also as a biosphere reserve and a proposed world heritage site that lie in the semi-arid plains of the district, fed by seven perennial rivers viz., Thamiraparani and its tributaries: Manimuthar, Pachaiyar, Kodumudiyar, Gadananathi, Ramanathi and Nambiar which form the lifeline of about five million people living in the immediate landscape. The Thamiraparani is the major river, which plays a vital role by providing water for irrigation and sustaining the people living in its basin. The river originates from the catchments of the Periya Pothigai hills in the Agasthyamalai region of the Western Ghats and traverses through Tirunelveli and Tuticorin districts before joining the Gulf of Mannar in the Bay of Bengal at Punnaikayal. The river-canal-tank network in the semiarid landscape sustains extensive paddy agriculture in the region. The old trees and plantations in the region support heronries while the Borassus flabellifer palm traditionally planted around the tanks offers roosting sites for numerous resident birds. This water body can be critical for resident species which experience seasonal water shortages on a regular basis. As this wetland is encompassed by and sandwiched between the Western Ghats on the west and the Bay of Bengal on the east, there is an overlap of the Marine Ecoregion as well.

3 - Why is the Site important?

3.1 - Ramsar Criteria and their justification

<no data available>

<no data available>

☑ Criterion 3 : Biological diversity

Justification	The area has rich Avifauna diversity especially water birds and they are important in maintaining the biological diversity of the area. Bird species such as Tachybaptus ruficollis, Egretta garzetta, Ardea cinerea, Ardea purpurea, Casmerodius albus, Mesophoyx intermedia, Bubulcus ibis, Ardeola grayii, Mycteria eucocephala, Anastomus oscitans, Threskiornis melanocephalus, Platalea leucorodia, Plegadis falcinellus, Pseudibis papillosa, Phoenicopterus ruber, Anser indicus, Sarkidiornis melanotos, Nettapus coromandelianus, Anas poecilorhyncha, Anas clypeata, Anas acuta, Anas querquedula, Charadrius dubius, Limosa limosa, Tringa nebularia, Charadrius alexandrinus, Charadrius asiaticus, Vanellus malabaricus, Vanellus indicus, Actitis hypoleucos, Calidris minuta, Himantopus himantopus, Gelochelidon nilotica, Sterna caspia, Sterna albifrons, Chlidonias hybridus, Sterna aurantia, Amaurornis phoenicurus, and Fulica atra.breed in huge numbers in the area. These species play a major role as they extensively feed on aquatic organisms and helps in maintaining the ecosystem balance. T

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

Optional text box to provide further information	Koonthakulam bird sanctuary is surrounded by agricultural fields which provides good nesting and foraging habitas for species like Tachybaptus ruficollis, Egretta garzetta, Ardea cinerea, Ardea purpurea, Casmerodius albus, Mesophoyx intermedia, Bubulcus ibis, Ardeola grayii, Mycteria eucocephala, Anastomus oscitans, Threskiornis melanocephalus, Platalea leucorodia, Plegadis falcinellus, Pseudibis papillosa, Phoenicopterus ruber, Anser indicus, Sarkidiornis melanotos, Nettapus coromandelianus, Anas poecilorhyncha, Anas clypeata, Anas acuta, Anas querquedula, Charadrius dubius, Limosa limosa, Tringa nebularia, Charadrius alexandrinus, Charadrius asiaticus, Vanellus malabaricus, Vanellus indicus, Actitis hypoleucos, Calidris minuta, Himantopus himantopus, Gelochelidon nilotica, Sterna caspia, Sterna albifrons, Chlidonias hybridus, Sterna aurantia, Amaurornis phoenicurus, and Fulica atra.

☑ Criterion 5 : >20,000 waterbirds

Overall waterbird numbers	26068
Start year	2020
Source of data:	Tamil Nadu Forest Department Census

☑ Criterion 6 : >1% waterbird population

Optional text box to provide further information	The wetland supports more than 1% threshold population of species like Pelecanus philippensis, Mycteria leucocephala and Threskiornis melanocephalus, part of the South Asian population.

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

<no data available>

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*	☐	☐	☐	☐	☑	☑	☐	☐	131	2020-2022		LC	☐	☐		Uses the wetland for nesting and foraging.
CHORDATA / AVES	*Amaurornis phoenicurus*	☐	☑	☐	☐	☑	☑	☐	☐	146	2020-2022		LC	☐	☐		Uses the wetland for nesting and foraging.
CHORDATA / AVES	*Anas acuta*	☐	☐	☐	☐	☑	☑	☐	☐	5207	2020-2022		LC	☐	☐		Uses the wetland for nesting and foraging.
CHORDATA / AVES	*Anas clypeata*	☐	☐	☐	☐	☑	☑	☐	☐	3318	2020-2022			☐	☐		Uses the wetland for nesting and foraging.
CHORDATA / AVES	*Anas poecilorhyncha zonorhyncha*	☐	☑	☐	☐	☑	☑	☐	☐	597	2020-2022			☐	☐		Uses the wetland for nesting and foraging.
CHORDATA / AVES	*Anas querquedula*	☐	☑	☐	☐	☑	☑	☐	☐	5125	2020-2022			☐	☐		Uses the wetland for nesting and foraging.
CHORDATA / AVES	*Anastomus oscitans*	☐	☑	☐	☐	☑	☑	☐	☐	3181	2020-2022		LC	☐	☐		Uses the wetland for nesting and foraging.
CHORDATA / AVES	*Anhinga melanogaster*	☐	☑	☐	☐	☑	☑	☐	☐	170	2020-2022		NT	☐	☐		Uses the wetland for nesting and foraging.
CHORDATA / AVES	*Anser indicus*	☐	☑	☐	☐	☑	☑	☐	☐	4849	2020-2022		LC	☐	☐		Uses the wetland for nesting and foraging.
CHORDATA / AVES	*Ardea alba*	☐	☑	☐	☐	☑	☑	☐	☐	1558	2020-2022		LC	☐	☐		Uses the wetland for nesting and foraging.
CHORDATA / AVES	*Ardea cinerea*	☐	☑	☐	☐	☑	☑	☐	☐	1089	2020-2022		LC	☐	☐		Uses the wetland for nesting and foraging.
CHORDATA / AVES	*Ardea purpurea*	☐	☑	☐	☐	☑	☑	☐	☐	616	2020-2022		LC	☐	☐		Uses the wetland for nesting and foraging.
CHORDATA / AVES	*Ardeola grayii*	☐	☑	☐	☐	☑	☑	☐	☐	441	2020-2022		LC	☐	☐		Uses the wetland for nesting and foraging.
CHORDATA / AVES	*Bubulcus ibis*	☐	☑	☐	☐	☑	☑	☐	☐	2604	2020-2022		LC	☐	☐		Uses the wetland for nesting and foraging.
CHORDATA / AVES	*Calidris minuta*	☐	☑	☐	☐	☑	☑	☐	☐	219	2020-2022		LC	☐	☐		Uses the wetland for nesting and foraging.
CHORDATA / AVES	*Charadrius alexandrinus*	☐	☑	☐	☐	☑	☑	☐	☐	22	2020-2022		LC	☐	☐		Uses the wetland for nesting and foraging.
CHORDATA / AVES	*Charadrius asiaticus*	☐	☑	☐	☐	☑	☑	☐	☐	42	2020-2022		LC	☐	☐		Uses the wetland for nesting and foraging.
CHORDATA / AVES	*Charadrius dubius*	☐	☑	☐	☐	☑	☑	☐	☐	509	2020-2022		LC	☐	☐		Uses the wetland for nesting and foraging.
CHORDATA / AVES	*Chlidonias hybrida*	☐	☑	☐	☐	☑	☑	☐	☐	145	2020-2022		LC	☐	☐		Uses the wetland for nesting and foraging.

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	*Egretta garzetta*	☐	☑	☐	☐	☑	☑	☐	☐	3789	2020-2022		LC	☐	☐		Uses the wetland for nesting and foraging.
CHORDATA / AVES	*Egretta intermedia*	☐	☑	☐	☐	☑	☑	☐	☐	1393	2020-2022			☐	☐		Uses the wetland for nesting and foraging.
CHORDATA / AVES	*Fulica atra*	☐	☑	☐	☐	☑	☑	☐	☐	2087	2020-2022		LC	☐	☐		Uses the wetland for nesting and foraging.
CHORDATA / AVES	*Gelochelidon nilotica*	☐	☑	☐	☐	☑	☑	☐	☐	19	2020-2022		LC	☐	☐		Uses the wetland for nesting and foraging.
CHORDATA / AVES	*Himantopus himantopus*	☐	☑	☐	☐	☑	☑	☐	☐	818	2020-2022		LC	☐	☐		Uses the wetland for nesting and foraging.
CHORDATA / AVES	*Hydroprogne caspia*	☐	☑	☐	☐	☑	☑	☐	☐	43	2020-2022		LC	☐	☐		Uses the wetland for nesting and foraging.
CHORDATA / AVES	*Limosa limosa*	☐	☑	☐	☐	☑	☑	☐	☐	40	2020-2022		NT	☐	☐		Uses the wetland for nesting and foraging.
CHORDATA / AVES	*Microcarbo niger*	☐	☑	☐	☐	☑	☑	☐	☐	4849	2020-2022		LC	☐	☐		Uses the wetland for nesting and foraging.
CHORDATA / AVES	*Mycteria leucocephala*	☐	☑	☑	☐	☑	☑	☐	☐	8818	2020-2022	2	NT	☐	☐		Uses the wetland for nesting and foraging.
CHORDATA / AVES	*Nettapus coromandelianus*	☐	☑	☐	☐	☑	☑	☐	☐	78	2020-2022		LC	☐	☐		Uses the wetland for nesting and foraging.
CHORDATA / AVES	*Pelecanus philippensis*	☐	☑	☑	☐	☑	☑	☐	☐	11216	2020-2022	3	NT	☐	☐		Uses the wetland for nesting and foraging.
CHORDATA / AVES	*Phoenicopterus ruber*	☐	☑	☐	☐	☑	☑	☐	☐	362	2020-2022		LC	☐	☐		Uses the wetland for nesting and foraging.
CHORDATA / AVES	*Platalea leucorodia*	☐	☑	☐	☐	☑	☑	☐	☐	1004	2020-2022		LC	☐	☐		Uses the wetland for nesting and foraging.
CHORDATA / AVES	*Plegadis falcinellus*	☐	☑	☐	☐	☑	☑	☐	☐	4649	2020-2022		LC	☐	☐		Uses the wetland for nesting and foraging.
CHORDATA / AVES	*Pseudibis papillosa*	☐	☑	☐	☐	☑	☑	☐	☐	1902	2020-2022		LC	☐	☐		Uses the wetland for nesting and foraging.
CHORDATA / AVES	*Sarkidiornis melanotos*	☐	☑	☐	☐	☑	☑	☐	☐	1584	2020-2022		LC	☐	☐		Uses the wetland for nesting and foraging.
CHORDATA / AVES	*Sternula albifrons*	☐	☑	☐	☐	☑	☑	☐	☐	257	2020-2022		LC	☐	☐		Uses the wetland for nesting and foraging.
CHORDATA / AVES	*Tachybaptus ruficollis*	☐	☑	☐	☐	☑	☑	☐	☐	2992	2020-2022		LC	☐	☐		Uses the wetland for nesting and foraging.
CHORDATA / AVES	*Threskiornis melanocephalus*	☐	☑	☑	☐	☑	☑	☐	☐	1591	2020-2022	1	NT	☐	☐		Uses the wetland for nesting and foraging.
CHORDATA / AVES	*Tringa nebularia*	☐	☑	☐	☐	☑	☑	☐	☐	35	2020-2022		LC	☐	☐		Uses the wetland for nesting and foraging.
CHORDATA / AVES	*Vanellus indicus*	☐	☑	☐	☐	☑	☑	☐	☐	286	2020-2022		LC	☐	☐		Uses the wetland for nesting and foraging.

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	*Vanellus malabaricus*	☐	☑	☐	☐	☑	☑	☐	☐	424	2020-2022		LC	☐	☐		Uses the wetland for nesting and foraging.

1) Percentage of the total biogeographic population at the site

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

Name of ecological community	Community qualifies under Criterion 2?	Description	Justification
Water bird community	☐	The area has rich Avifauna diversity especially water birds and they are important in maintaining the biological diversity of the area. Bird species such as Spot billed Pelican, Black-headed Ibis and Painted Stork breed in huge numbers in the area.	The water bird community present in the area consists of 4 Near Threatened species of water birds which are protected under the Schedule IV of Wildlife Protection act 1972 .

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

4.1 - Ecological character

Koonthankulam wetland belongs to the semi-arid region and consists of wetlands in the form of irrigation tanks, interconnected by an ancient network of canals, and fed by the rivers originating from the Western Ghats. While these irrigation tanks have socio-economic and cultural significance, and ecological importance. The sanctuary has a rich diversity of flora and fauna. Around 69 species of plants and 92 animal species have been recorded from the site, including 3 domestic species. With respect to species of conservation importance, as per the IUCN Red Data List, Near threatened species of birds have been recorded from the site. The vegetation has a mix of trees, shrubs, herbs, climbers, creepers and pteridophytes. The wetland provides a suitable habitat for local and migratory bird species. Koonthankulam Pelicanry is one of the oldest Pelicanry discovered during 19th century. The pelicans built their nest in the village trees in the human vicinity. Notable waterbirds species observed from the site include Indian pond heron (Ardeola grayii), Eurasian wigeon (Anas penelope), short-billed pelican(Pelecanus philippensis), oriental darter (Anhinga melanogaster), and Northern pintail(Anas acuta). Koonthankulam along with associated wetlands are important for the long-term conservation of waterbirds in the region. Along with waterbirds the wetland also supports diverse insects, butterflies and fish species, although the commercial fishery is not practiced. The water from the wetland is not used for drinking purpose. The locals have dug wells and borewells for their domestic needs. Agriculture is prevelant around the wetland area and the groundwater is used to meet the irrigation demand. 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 forest department undertakes regular desilting activities during summer to maintain the depth of the lake. No agricultural and plantation activities exist within the wetland. The wetland does have three temples of religious institutions along its bank, a few cultural activities are organized around the wetland. This wealthy ecosystem has presently come under threat due to land encroachments, increasing shrimp farms and other anthropogenic activities.

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
2: Ponds	Koonthankulam	1	72.04

(ECD) Habitat connectivity	Koonthankulam tank was built a few centuries ago and are interconnected by canals that bring water from the rivers originating in the Western Ghats.

4.3 - Biological components

4.3.1 - Plant species

Invasive alien plant species

Phylum	Scientific name	Impacts
TRACHEOPHYTA/MAGNOLIOPSIDA	*Ipomoea aquatica*	Potential
TRACHEOPHYTA/MAGNOLIOPSIDA	*Parthenium hysterophorus*	Potential
TRACHEOPHYTA/MAGNOLIOPSIDA	*Prosopis juliflora*	Potential

Optional text box to provide further information

Parthenium hysterophorus L: Noxious plant, inhabiting many parts of the world; considered to be one of the worst weeds currently known, and of global significance responsible for severe human and animal health issues, such as dermatitis, asthma and bronchitis, and agricultural losses besides a great problem for biodiversity. Seeds of this weed came to India with grains imported from USA under US PL 480 scheme, also known as “Food for Peace” (food assistance programme of US Govt.), and spread alarmingly to almost all states in India and established as a natural weed. In India, this was first spotted by Professor Paranjape, 1951 in Pune (Maharashtra) as stray plants on rubbish heaps and reported by Rao as a new species in India, while earliest record of this species in India dates back to 1814 by Roxburgh, father of Indian Botany, in his book Hortus Bengalensis.

Prosopis juliflora: This species was introduced to address erosion problems but turned into an invader. It 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 Services, people’s livelihoods and lifestyles exceed the benefits it may offer.
Ipomoea sp.: Many studies have been conducted on this invasive species. Comparisons have also been made between invaded and uninvaded stands of floristic diversity and soil chemical properties. The allelopathic potential of this species were reflected in the results obtained. They have inhibitory effect on other species due to the presence of phenolics, flavonoids, tannins and alkaloids. These properties coupled with its competitive effect for soil nutrients contribute to the success of its invasion and formation of pure population.

4.3.2 - Animal species

Other noteworthy animal species

Phylum	Scientific name	Pop. size	Period of pop. est.	%occurrence	Position in range /endemism/other
ARTHROPODA/INSECTA	*Pachliopta hector*				protected under Sch I (Part IV) of the Wildlife Protection Act 2017.

Invasive alien animal species

Phylum	Scientific name	Impacts
CHORDATA/ACTINOPTERYGII	*Hypophthalmichthys molitrix*	Potential

Optional text box to provide further information

The presence of this silver carp fish 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 region experiences tropical humid climate and it receives water only through seasonal monsoon rainfall that ranges from 48.5 mm to 179 mm.

4.4.2 - Geomorphic setting

a) Minimum elevation above sea level (in metres): 69

a) Maximum elevation above sea level (in metres): 75

- 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.

This wetland is encompassed by the Western Ghats on the west and the Bay of Bengal on the east. This region is known as the rice bowl of southern Tamil Nadu, made possible by rivers that originate in the Agasthyamalai Hills. A biosphere reserve and a proposed world heritage site that lie in the semi-arid plains, fed by seven perennial rivers viz., Thamiraparani and its tributaries: Manimuthar, Pachaiyar, Kodumudiyar, Gadananathi, Ramanathi and Nambiar, forming the lifeline of about five million people living in the immediate landscape. Thamiraparani is a major river, plays a vital role by providing water for irrigation and sustaining the people living in its basin. The river originates from catchments of the Periya Pothigai hills in the Agasthyamalai region of the Western Ghats traversing through Tirunelveli and Tuticorin districts before joining Gulf of Mannar in the Bay of Bengal at Punnaikayal. The river-canal-tank network in semiarid landscape sustains extensive paddy agriculture.

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 groundwater	☐	No change
Water inputs from surface water	☑	No change

Water destination

Presence?	
Feeds groundwater	No change
To downstream catchment	No change

Stability of water regime

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:

This wetland is encompassed by the Western Ghats on the west and the Bay of Bengal on the east. This region is known as the rice bowl of southern Tamil Nadu, made possible by the many rivers that originate in the Agasthyamalai Hills, and also as a biosphere reserve and a proposed world heritage site that lie in the semi-arid plains of the district, fed by seven perennial rivers viz., Thamiraparani and its tributaries: Manimuthar, Pachaiyar, Kodumudiyar, Gadananathi, Ramanathi and Nambiar which form the lifeline of about five million people living in the immediate landscape. The Thamiraparani is a major river, which plays a vital role by providing water for irrigation and sustaining the people living in its basin. The river originates from the catchments of the Periya Pothigai hills in the Agasthyamalai region of the Western Ghats and traverses through Tirunelveli and Tuticorin districts before joining the Gulf of Mannar in the Bay of Bengal at Punnaikayal.

The river-canal-tank network in the semiarid landscape sustains extensive paddy agriculture in the region. The old trees and plantations in the region support heronries while the Borassus flabellifer palm traditionally planted around the tanks offers roosting sites for numerous resident birds. This water body can be critical for resident species which experience seasonal water shortages on a regular basis.

(ECD) Connectivity of surface waters and of groundwater	This wetland is encompassed by Western Ghats on the west and Bay of Bengal on the east. Is connected to network of many rivers originating in the Agasthyamalai Hills, Canals and Tanks.

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 ranges from 9-14 NTU and the colour is greenish brown
(ECD) Light - reaching wetland	Partially reaches the euphotic and benthic zones

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 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 pH of the water ranges from 6.5 to 7.4.

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:

The Koonthakulam Bird Sanctuary, is located in Tirunelveli district in the State of Tamil Nadu, India. It adjoins the tiny village of Koonthankulam in Nanguneri Taluk of Tirunelveli. The sanctuary is about just 38 km away from Tirunelveli, which is a bustling town on the banks of the Thambarabarani River. It is composed of Koonthankulam and Kadankulam irrigation tanks, which is conveniently linked by tar road. Koonthakulam is situated in the western side of the village. It receives surplus water from Manimuthar and Nanguneri canal during the month of January and February. Villages that surround the wetland include Koonthakulam, Kodankulam, Kadankulam, Silayam, Arumuganera, Kadambankulam. The water from the wetland is not used for drinking purpose instead the locals have dug wells and borewells for their domestic needs. Agriculture is undertaken in the region in and around the wetland. Groundwater is used for meeting the irrigation needs.

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
Hazard reduction	Flood control, flood storage	High
Hazard reduction	Coastal shoreline and river bank stabilization and storm protection	High

Cultural Services

Ecosystem service	Examples	Importance/Extent/Significance
Recreation and tourism	Recreational hunting and fishing	High
Recreation and tourism	Picnics, outings, touring	High
Spiritual and inspirational	Spiritual and religious values	High
Spiritual and inspirational	Aesthetic and sense of place values	High

Supporting Services

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

Within the site: 1500

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 ☐

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

Description if applicable

Koonthankulam wetland belongs to the semi-arid region of Tirunelveli district, in the southern Indian state of Tamil Nadu and consists of wetlands in the form of irrigation tanks, interconnected by an ancient network of canals, and fed by the rivers originating from the Western Ghats. These irrigation tanks have socio-economic and cultural significance.

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

Description if applicable

Koonthankulam Bird Sanctuary is a unique sanctuary actively protected and managed by the Koonthankulam village community. This one of the largest breeding water bird reserves in South India and attracts more than one lakh 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. The birds coming to the backyards of the local residing population are protected vehemently for five generations and are considered as harbingers of luck. The excreta of birds called “guano” is collected by the villagers in summer along with the silt to use them as fertilizers in their fields. From children to older generations in the village protect the birds, their nests and fledglings. Chicks fallen are taken care of in the rescue centre till they are able to fly on their own.

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

The wetland does have three temples religious institutions along its bank, a few cultural activities are organized around the wetland.

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	☑	☑

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

Local Authority - The wetland is a Protected area as it has been declared a bird sanctuary. It comes under the jurisdiction of Tamil Nadu Forest Department, Tirunelveli division.

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, Tirunelveli District

Provide the name and/or title of the person or people with responsibility for the wetland: Dr. R.Murugan, District Forest Officer and Wildlife Warden, Tirunelveli District

Postal address: O/o District Forest Officer, Tirunelveli Division, NGO-A Colony, Tirunelveli, PIN-627 007

E-mail address: dfotnv@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
Water releases	Medium impact		☐	☑
Water abstraction	Medium impact		☐	☑
Drainage	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
Household sewage, urban waste water	Medium impact		☐	☑
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
Bird Sanctuary	Koonthankulam Bird Sanctuary	http://www.keybiodiversityareas.org/site/factsheet/18393	whole

Non-statutory designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
Important Bird Area	Koonthankulam Bird Sanctuary	http://datazone.birdlife.org/site/factsheet/kunthangulam-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

Other:

Declared as a Protected Area and as a Bird Sanctuary as per the Indian Wildlife Protection Act, 1972

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 ◉

5.2.6 - Planning for restoration

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

5.2.7 - Monitoring implemented or proposed

<no data available>

6 - Additional material

6.1 - Additional reports and documents

6.1.1 - Bibliographical references

Abhisheka , K., J. Patrick David , M.B. Prashanth , K.S. Seshadri & T. Ganesh (2013) Water birds in Tirunelveli and Tuticorin districts. Journal of Threatened Taxa | www.threatenedtaxa.org | 26 August 2013 | 5(12): 4641–4652

Binoda Chandra Sabata and M.P. Nayar (1995) River pollution in India: a case study of Ganga River. New Delhi: APH Pub. Corp., 1995, 223 p.

Collar, N.J., Andreev, A.V., Chan, S., Crosby, M.J., Subramanya, S., Tobias, J. A., Rudyanto. and Crosby, M. J. (2001) Spot-billed pelican (Pelecanus philippensis) Threatened birds of Asia, in Birdlife International (2001) Threatened birds of Asia: the Birdlife International Red Data Book. Cambridge, UK: Birdlife International, Page 68-103, ISBN 0 946888 442.

Gokula, V. (2011) An ethogram of Spot-billed Pelican (Pelecanus philippensis). Chinese Birds. 2(4):183–192.

Jayakumar, S., Subramanian Muralidharan. and Santhanakrishnan Babu. (2014) A hitherto unrecorded sighting of the Common Pochard Aythya ferina (Linnaeus, 1758) (Aves: Anseriformes: Anatidae) in Vedanthangal Bird Sanctuary, Tamil Nadu, India. Journal of Threatened Taxa. 6(11): 6485–6487.

Jayakumar, S. and Muralidharan, S. (2010) Diversity of Colonial Nesting Birds in Different Heronries of Tamil Nadu. Proceedings of UGC Sponsored National Conference on Modern trends in Biodiversity Conservation and its sustainable utilization. pp. 7-18.

Kannan, V. and Ranjit Manakadan. (2005) The status and distribution of Spot-billed Pelican Pelecanus philippensis in Southern India. Forktail. 2: 9–14.

Kannan, V. and Jeganathan Pandiyan. (2012) Nesting Ecology of the Spot-Billed Pelican Pelecanus Philippensis in Southern India. World Journal of Zoology. 7(4): 295-302.

Vijayan V.S., Narendra Prasad S., Lalitha V. and Muralidharan S. (2004) Inland wetlands of India: Conservation Priorities. SACON. pp. 532

Rhenius (1907) Pelicans breeding in India. Journal of the Bombay Natural History Society 17(3): 806–807.

Santhakumar, B., Mohamed Samsoor Ali, A., and Arun, P.R. (2016) Status of Greater Spotted Eagle Clanga clanga in Tamil Nadu, and Puducherry, India. Indian Birds. 11(3): 71-74. Sharma and Bachheti (2013) A review on Ipomoea carnea. International Journal of Pharmaceutical and Biological Science: 4: 363-377 pp.

Subramanya, S. (2005) Heronries of Tamil Nadu. Indian Birds. 1(6): 125-148.

Vaidyanathan (2001) Tanks of South India. Centre for Science and Environment, New Delhi, 178pp.

Wilkinson (1961) Pelicanry at Kundakulam, Tirunelveli District. Journal of the Bombay Natural History Society 58: 514–515

6.1.2 - Additional reports and documents

i. taxonomic lists of plant and animal species occurring in the site (see section 4.3)
<no file available>

ii. a detailed Ecological Character Description (ECD) (in a national format)
<no file available>

iii. a description of the site in a national or regional wetland inventory
<no file available>

iv. relevant Article 3.2 reports
<no file available>

v. site management plan
<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:

Koonthankulam: Flamingos feeding in the Tank area (*Tamil Nadu Forest Department, 06-10-2021*)

Aerial view of Koonthankulam Sanctuary (*Tamil Nadu Forest Department, 06-10-2021*)

Koonthankulam: Bar headed geese feeding in the nearby paddy field (*Tamil Nadu Forest Department, 06-10-2021*)

Painted Storks nesting in Koonthankulam village (*Tamil Nadu Forest Department, 06-10-2021*)

6.1.4 - Designation letter and related data

Designation letter

<1 file(s) uploaded>

Date of Designation	2021-11-08