



Ramsar Information Sheet

India

Kazhuveli Bird Sanctuary



Designation date	16 January 2024
Site number	
Coordinates	12°06'37"N 79°51'41"E
Area	5 151,60 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

1.1 - Summary description

*Please provide a short descriptive text summarising the key characteristics and internationally important aspects of the site.
You may prefer to complete the four following sections before returning to draft this summary.*

Summary

(This field is limited to 2500 characters)

The Kazhuveli Bird Sanctuary covering an area of 5151.6 ha was declared as the 16th bird sanctuary in Tamil Nadu in the year 2021. It is a brackish shallow lake located on the Coromandel Coast in Villupuram district, North of Pondicherry. The lake is connected to the Bay of Bengal by the brackish Uppukalli creek and the Edayanthittu Estuary. Kazhuveli is one of the significant and biodiversity rich wetlands. The lake is one of the largest wetlands in peninsular India. The lake can be divided into three parts based on the water features viz., the estuarine part with brackish water, the Uppukali creek feeding the sea water and the Kazuveli basin with fresh water. The Kazhuveli wetland lies in the Central Asian Flyway and is an important stopover site for migratory species of birds and breeding ground for resident species of birds, breeding ground for fish and serves as a major recharge source for the aquifers. In areas of brackish water highly degraded mangrove patches containing *Avicennia* species are found. In the earlier years, this area was reportedly harbouring Tropical Dry Evergreen Forests. In this area, reed (*Typha angustata*) is found in several hundred hectares.

2 - Data & location

2.1 - Formal data

2.1.1 - Name and address of the compiler of this RIS

Responsible compiler

Name	Shri. Deepak Srivastava, IFS., Principal Chief Conservator of Forests and Member Secretary
Institution/agency	Tamil Nadu State Wetland Authority
Postal address <small>(This field is limited to 254 characters)</small>	O/o Principal Chief Conservator of Forests & Member Secretary No.1, Jeenis Road, Panagal Building, VIII Floor, Saidapet, Chennai 600 015 Tamil Nadu, India
E-mail	tnswa18@gmail.com
Phone	+91 044 24323343
Fax	

National Ramsar Administrative Authority

Name	Ms. Leena Nandan, IAS., Secretary, Ministry of Environment, Forest & Climate Change
Institution/agency	Ministry of Environment, Forest & Climate Change
Postal address <small>(This field is limited to 254 characters)</small>	Secretary, Ministry of Environment, Forest and Climate Change Indira Paryavaran Bhavan Jorbagh Road New Delhi - 110 003 INDIA
E-mail	secy-moef@nic.in
Phone	+91-11-20819308
Fax	20819238

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

From year

*Period when the data and information for the sheet for a newly designated site was compiled
For updated RIS: Period when the data and information for revision of an existing sheet was updated*

To year

2.1.3 - Name of the Ramsar Site

Official name (in English, French or Spanish)	Kazhuveli Bird Sanctuary
Unofficial name (optional)	Kazhuveli Wetland

2.2 - Site location

2.2.1 - Defining the Site boundaries

a) GIS boundaries [link](#)

Materials presented on this website, particularly maps and territorial information, are as-is and as-available based on available data and do not imply the expression of any opinion whatsoever on the part of the Secretariat of the Ramsar Convention concerning the legal status of any country, territory, city or area, or of its authorities, or concerning the delimitation of its frontiers or boundaries.

b) Digital map/image

 [IN_map240618.jpeg](#)

Former maps

<no file available>

Boundaries description

(This field is limited to 2500 characters)

East : Pondicherry to Chennai East Coast road;
 Village boundaries of Urani village No.47, Anumandai village No.52, Seyyankuppan village No.53, Chettikuppam village No.54 and Koonimedu village No.55.

West: Village boundaries of Aruvadi village No.223, Karattai village No.17 and Devanandal village No.16.

South: Village boundaries of Keelputhupattu village No.56, Kozhuvuri village No.36 and Kazhuperumpakkam village No.35.

North: Village boundaries of Kilapakkam village No.14, Nadukuppam village No.38 and Thirukkanur village No.46.

The wetland is in between 70o 45' to 70o 55' longitude and in between 12 o to 12 o 10' latitude. The wetland lies adjacent to Bay of Bengal along the east coast. The wetland is partly in Marakkanam and in Vanur taluk of Villupuram district.

Coordinates of the centre of the site, as automatically estimated from the GIS boundaries (for information only)

2.2.2 - General location

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

b) What is the nearest town or population centre?

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

c) Is the site part of a formal transboundary designation with another Contracting Party? Yes No

d) Transboundary Ramsar Site name:

2.2.4 - Area of the Site

If you have not established an official area by other means, you can copy the area calculated from the GIS boundaries into the 'official area' box.

Official area, in hectares (ha):

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

2.2.5 - Biogeography

Please provide the biogeographic region(s) encompassing the site and the biogeographic regionalization scheme applied:

Biogeographic regions

Regionalisation scheme(s)	Biogeographic region
Marine Ecoregions of the World (MEOW)	Western Indo-Pacific : West and South Indian Shelf, South India and Sri Lanka
Udvardy's Biogeographical Provinces	Indomalayan realm

Other biogeographic regionalisation scheme

(This field is limited to 2500 characters)

3 - Why is the Site important?

3.1 - Ramsar Criteria and their justification

Tick the box against each criterion applied to the designation of the Ramsar Site. All criteria which apply should be ticked. Please explain why you selected a criterion by filling in the relevant fields on this page, on the three other pages of this section 'Criteria & justification' and on the 'Wetland types' page of the section 'What is the site like?'. More guidance on how to justify a criterion will appear when you tick it as well as in the help box.

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

To justify this Criterion, please select at least one wetland type as representative, rare or unique in the section What is the site like? > Wetland types and provide further details in at least one of the three boxes below.

Hydrological services provided

(This field is limited to 3000 characters)

Kazhuveli wetland is a brackish water lagoon, which empties into the sea through a narrow channel connecting the tank with the Yedayanthittu estuary to the northeast. The lake is the second largest brackish water lake in South India and is considered as important bird and biodiversity area by BirdLife International with a site code of IN-TN-12. The site has diverse ecosystems such as area with fresh water, brackish water, mangroves, mudflats etc. only very few brackish water ecosystems are found in the country which makes the Kazhuveli wetland a representative natural wetland type.

The surplus water from the upstream rivers finally reaches the wetland before entering the Bay of Bengal through the Yedayanthittu estuary via Uppukalli creek. The surface run off water from the surrounding area also reaches the wetland. During high tide and times of natural calamities such as cyclones the sea water enters the wetland through the creek. Salinity levels in the wetlands therefore have a gradient from fresh in the south to saline in the north with spikes in the vicinity of aquaculture and salt pans. The level of salinity increases during the dry season and gets washed out into the estuary and Bay of Bengal during the monsoon.

The site helps in maintaining the hydrological regime of the area, protects soil from erosion, regulates climate and reduces hazards by acting as a buffer during floods and extreme rainfalls. It is a major source of ground water recharge.

Other ecosystem services provided

(This field is limited to 3000 characters)

The landscape harbors diverse habitat structure and thus the Kazhuveli wetland supports more than 750 species of flora and fauna. The diversity includes about 229 species of birds, 14 species of mammals, 85 species of fish, 72 species of butterflies, 39 species of reptiles, 13 species of amphibians, 242 species of plants and several other invertebrates. The Kazhuveli wetland lies in the Central Asian Flyway and is an important stopover site for migratory species of birds and breeding ground for resident species of birds and fishes. The site provides supporting services in the form of biodiversity, nutrient cycling and pollination.

Other reasons

(This field is limited to 3000 characters)

The Kazhuveli bird sanctuary provides cultural services in the form of recreation and tourism. The Kazhuveli bird sanctuary attracts nature enthusiasts, bird watchers and wildlife photographers due to the rich avifauna diversity supported by the site. The site has potential to become a educationally hotspot for students and researchers.

Criterion 2 : Rare species and threatened ecological communities

Justification, see: - relevant plant species in the section Criteria & justification> Plant species (3.2) - relevant animal species in the section Criteria & justification> Animal species (3.3) - relevant ecological communities in the section Criteria & justification> Ecological communities (3.4)

Optional text box to provide further information

(This field is limited to 3000 characters)

The Site supports 8 Vulnerable species and 16 near threatened species. Out of the 229 species of birds recorded in the Site, 5 are classified as VU and 12 as NT in the IUCN Red List. Two vulnerable reptile species are found in the Site which are the Indian flap-shelled turtle and Indian star tortoise. The Indian flap-shelled turtle prefers swampy areas with ample soil and sunlight as nesting grounds which is provided by this Site. It is also poached for meat, hence, conserving this Site is important for protecting this species.

The site provides refuge to several mammals including the Endangered Indian Pangolin. The Species lives around the drier parts of the sanctuary. The Bonnet macaque is also a Vulnerable species found in the site which often comes in contact with humans and faces issues related to human-wildlife conflict. The Site provides good shelter and other resources such as food and water that helps in prevention of the conflict.

Criterion 3 : Biological diversity

Justification, see: - relevant plant species in the section Criteria & justification> Plant species (3.2) - relevant animal species in the section Criteria & justification> Animal species (3.3)

Justification

(This field is limited to 3000 characters)

The Kazhuveli wetland supports more than 750 species of flora and fauna. The diversity includes about 229 species of birds, 14 species of mammals, 84 species of fish, 72 species of butterflies, 39 species of reptiles, 13 species of amphibians, 242 species of plants and several other invertebrates. The site is one of the Important Bird and Biodiversity areas with site code IN-TN-12 by fulfilling the criteria A1, A4i, A4iii. The site lies in the Central Asian Flyway and is an important foraging ground for waders as there are mudflats and shallow areas where food is available in plenty which will help them to build up energy to make the return journey.

The site provides nesting area for about 11 species of colonial nesting waterbird species which includes Near Threatened species such as Painted Stork, Spot-billed Pelican, Black-headed Ibis and Oriental Darter

The site is also an important area regarding fish productivity. Several species of fish use the area as breeding and feeding ground. The wetland is connected to the Bay of Bengal at the Yedayanthittu Estuary through a creek which helps in catadromous and anadromous migration of fish species.

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

Justification, see: - relevant plant species in the section Criteria & justification> Plant species (3.2) - relevant animal species in the section Criteria & justification> Animal species (3.3) and explain the life cycle stage or nature of adverse conditions in the accompanying 'justification' box.

Optional text box to provide further information
(This field is limited to 3000 characters)

The site is one of the important breeding ground for birds especially water birds due to the availability of food, diverse habitat and breeding sites. 11 species of colonial nesting water birds use the site as breeding ground. The tree species such as Vachellia nilotica and Parkinsonia aculeate are used as nesting site by the birds. Near Threatened species such as Painted Stork, Spot-billed Pelican, Black-headed Ibis and Oriental Darter breeds in the trees of the wetland. The total area used for nesting is approximately 57 ha and about 2000 colonial nesting waterbirds are found during the breeding season. The Spot-billed Pelican is the most dominant bird species that breed in the site. Birds actively breed in the site from the month of October – April. (Atlas of colonial nesting waterbirds in Tamil Nadu, Wildlife Institute of India).

As the site lies in the central Asian flyway the area is critical for the survival of the threatened migratory species. The wetland provides refuge for migratory waterbirds and acts as a foraging ground for them. The migratory bird species use the Site as an important stopover point during their migration.

The Site also provides nesting site for Vulnerable Indian Flap-shelled Turtle as they prefer Swampy areas with soil and exposure to sunlight and the site provides suitable habitat for them and several other reptile species also use the area for breeding. The site is also an important area regards fish productivity. Several species of fishes use the area as breeding which includes Near Threatened Anguilla bicolor (Indian Shortfin Eel).

Criterion 5 : >20,000 waterbirds

Justification, see:- the total number of waterbirds and the period of data collection - relevant waterbird species, and if possible their population size, in the section Criteria & justification> Animal species (3.3)

Overall waterbird numbers

Start year

End year

Source of data:

Optional text box to provide further information
(This field is limited to 3000 characters)

Criterion 6 : >1% waterbird population

Justification, see: Criteria & justification> Animal species (3.3)

Optional text box to provide further information
(This field is limited to 3000 characters)

The site supports more than 1% of the South Asia population of Near Threatened species such as Painted Stork (1% of the South Asia population is 250), Black-tailed Godwit (1% of the South Asia population is 1500), and Oriental Darter (1% of the South Asia population is 40) as per the population estimates provided in the Water Bird Population Portal. The site acts as a foraging ground and nesting ground for the bird species. The bird population data was used from the Waterbirds Population Portal to determine the percentage of occurrence of the species in the biogeographical region.

Criterion 7 : Significant and representative fish

Justification, see: Criteria & justification> Animal species (3.3)

Justification
(This field is limited to 3000 characters)

The Kazhuveli wetland supports more than 84 species of fishes under 47 family. The site supports diverse fish variety due to the availability of diverse habitat structure. Fishes that prefer fresh water and brackish water are found in the wetland. Diversity of fish species varies with seasonal changes as the salinity of the water keeps on changing due to the water flowing in from various canals, precipitation, tidal action and floods. Nera Threatened species of eel called Indian Shortfin Eel is found in the wetland.

Criterion 8 : Fish spawning grounds, etc.

To justify this Criterion, please give information in the box below. Completion of details on relevant fish species in the section Criteria & justification> Animal species (3.3) is optional.

Justification
(This field is limited to 3000 characters)

The wetland acts as migrator path and spawning ground for variety of fishes. Fishes that perform oceanodromous, potamodromous, catadromous, amphidromous, and anadromous migration are found in the wetland. The inflowing canal brings in fishes from the upstream which breeds in the wetland, similarly the fishes from the sea move into the wetland through the estuary and spawn in the wetland. The juvenile fishes grow within the wetland and finally after attaining a particular size will return back to the sea. Thus, the wetland helps in increasing fish productivity.

Criterion 9 : >1% non-avian animal population

To justify this Criterion, please give details on relevant non-avian species and their population size in the section Criteria & justification> Animal species (3.3)

Optional text box to provide further information
(This field is limited to 3000 characters)

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
<no data available>								

GBIF Secretariat (2019). GBIF Backbone Taxonomy. Checklist dataset <https://doi.org/10.15468/39omej> accessed via GBIF.org on 2020-07-15.





























Optional text box to provide further information on plant species of international importance:

(This field is limited to 3000 characters)

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

Animals are listed in the following order: birds; fish, mollusc and crustacean; other animals

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								
Others																	

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/ REPTILIA	<i>Lissemys punctata</i> 	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				VU 	<input type="checkbox"/>	<input type="checkbox"/>	Protected under Schedule I (Part C) of the Wild Life (Protection) Amendment Act, 2022.	The wetland provides suitable habitat for the species and the turtle breeds in swampy areas with soil exposed to sunlight found in the wetland.
CHORDATA/ MAMMALIA	<i>Macaca radiata</i> 	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				VU 	<input type="checkbox"/>	<input type="checkbox"/>	Protected under Schedule I (Part A) of the Wild Life (Protection) Amendment Act, 2022.	The Site provides shelter and resources such as food and water that helps in prevention of human wildlife conflict as the species tend to move into human settlements.
CHORDATA/ MAMMALIA	<i>Manis crassicaudata</i> 	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				EN 	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Protected under Schedule I (Part A) of the Wild Life (Protection) Amendment Act, 2022.	The habita around the wetland provides refuge for the species and conservation of the site is important for the conservation of the species as the species is poached by hunters.
CHORDATA/ REPTILIA	<i>Python molurus</i> 	<input checked="" type="checkbox"/>	<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"/>	Protected under Schedule I (Part C) of the Wild Life (Protection) Amendment Act, 2022.	The site provides habitat and also acts as breeding ground for the snake species
CHORDATA/ REPTILIA	<i>Varanus bengalensis</i> 	<input checked="" type="checkbox"/>	<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"/>	Protected under Schedule I (Part C) of the Wild Life (Protection) Amendment Act, 2022.	The site provides habitat and also provides breeding ground for the species.
Fish, Mollusc and Crustacea																	
CHORDATA/ ACTINOPTERYGII	<i>Anguilla bicolor</i> 	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				NT 	<input type="checkbox"/>	<input type="checkbox"/>		The species uses the area as foraging and breeding ground and also as migratory path.
Birds																	
CHORDATA/ AVES	<i>Accipiter nisus</i> 	<input 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"/>				LC 	<input type="checkbox"/>	<input type="checkbox"/>	Protected under Schedule I (Part B) of the Wild Life (Protection) Amendment Act, 2022.	The site acts as a feeding ground for the bird during the migratory season as the bird migrated in the Central Asian Flyway.
CHORDATA/ AVES	<i>Anhinga melanogaster</i> 	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	100	2015	2.5	NT 	<input type="checkbox"/>	<input type="checkbox"/>	Protected under Schedule II (Part B) of the Wild Life (Protection) Amendment Act, 2022.	The trees found in the wetland acts as nesting site for the species. The population of the bird is of the South Asian region according to the Waterbirds Population Portal and 1% threshold population is 40.
CHORDATA/ AVES	<i>Aquila clanga</i> 	<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 checked="" type="checkbox"/>	Protected under Schedule I (Part B) of the Wild Life (Protection) Amendment Act, 2022.	The site acts as a feeding ground for the bird during the migratory season as the bird migrated in the Central Asian Flyway.
CHORDATA/ AVES	<i>Aquila hastata</i> 	<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"/>	Protected under Schedule I (Part B) of the Wild Life (Protection) Amendment Act, 2022.	The site acts as a feeding ground for the bird during the migratory season as the bird migrated in the Central Asian Flyway.
CHORDATA/ AVES	<i>Aquila heliaca</i> 	<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"/>	Protected under Schedule I (Part B) of the Wild Life (Protection) Amendment Act, 2022.	The site acts as a feeding ground for the bird during the migratory season as the bird migrated in the Central Asian Flyway.
CHORDATA/ AVES	<i>Aythya ferina</i> 	<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"/>	Protected under Schedule I (Part B) of the Wild Life (Protection) Amendment Act, 2022.	The site acts as a feeding ground for the bird during the migratory season as the bird migrated in the Central Asian Flyway.
CHORDATA/ AVES	<i>Calidris ferruginea</i> 	<input 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"/>				NT 	<input type="checkbox"/>	<input type="checkbox"/>	Protected under Schedule II (Part B) of the Wild Life (Protection) Amendment Act, 2022.	The site acts as a feeding ground for the bird during the migratory season as the bird migrated in the Central Asian Flyway.
CHORDATA/ AVES	<i>Circus macrourus</i> 	<input 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"/>				NT 	<input type="checkbox"/>	<input type="checkbox"/>	Protected under Schedule I (Part B) of the Wild Life (Protection) Amendment Act, 2022.	The site acts as a feeding ground for the bird during the migratory season as the bird migrated in the Central Asian Flyway.

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	<i>Falco chicquera</i> 	<input 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"/>				NT 	<input type="checkbox"/>	<input type="checkbox"/>	Protected under Schedule I (Part B) of the Wild Life (Protection) Amendment Act, 2022.	The site acts as a feeding ground for the bird during the migratory season as the bird migrated in the Central Asian Flyway.
CHORDATA/AVES	<i>Falco peregrinus</i> 	<input 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"/>				LC 	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Protected under Schedule I (Part B) of the Wild Life (Protection) Amendment Act, 2022.	The site acts as a feeding ground for the bird during the migratory season as the bird migrated in the Central Asian Flyway.
CHORDATA/AVES	<i>Limosa lapponica</i> 	<input 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"/>				NT 	<input type="checkbox"/>	<input type="checkbox"/>	Protected under Schedule II (Part B) of the Wild Life (Protection) Amendment Act, 2022.	The site acts as a feeding ground for the bird during the migratory season as the bird migrated in the Central Asian Flyway.
CHORDATA/AVES	<i>Limosa limosa</i> 	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1500	2016	1	NT 	<input type="checkbox"/>	<input type="checkbox"/>	Protected under Schedule II (Part B) of the Wild Life (Protection) Amendment Act, 2022.	The site acts as a feeding ground for the bird during the migratory season as the bird migrated in the Central Asian Flyway. The population of the bird is of the South Asian region according to the Waterbirds Population Portal and 1% threshold population is 1500.
CHORDATA/AVES	<i>Mycteria leucocephala</i> 	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	500	2019	2	NT 	<input type="checkbox"/>	<input type="checkbox"/>	Protected under Schedule II (Part B) of the Wild Life (Protection) Amendment Act, 2022.	The site acts as a feeding ground and the birds breed in the trees in the wetland. The population of the bird is of the South Asian region according to the Waterbirds Population Portal and 1% threshold population is 250.
CHORDATA/AVES	<i>Numenius arquata</i> 	<input 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"/>				NT 	<input type="checkbox"/>	<input type="checkbox"/>	Protected under Schedule II (Part B) of the Wild Life (Protection) Amendment Act, 2022.	The site acts as a feeding ground for the bird during the migratory season as the bird migrated in the Central Asian Flyway.
CHORDATA/AVES	<i>Pandion haliaetus</i> 	<input 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"/>				LC 	<input type="checkbox"/>	<input type="checkbox"/>	Protected under Schedule I (Part B) of the Wild Life (Protection) Amendment Act, 2022.	The site acts as a feeding ground for the bird during the migratory season as the bird migrated in the Central Asian Flyway.
CHORDATA/AVES	<i>Pelecanus philippensis</i> 	<input 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"/>				NT 	<input type="checkbox"/>	<input type="checkbox"/>	Protected under Schedule II (Part B) of the Wild Life (Protection) Amendment Act, 2022.	The site acts as a feeding ground and the birds breed in the trees in the wetland.
CHORDATA/AVES	<i>Sterna aurantia</i> 	<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"/>	Protected under Schedule I (Part B) of the Wild Life (Protection) Amendment Act, 2022.	The site acts as a feeding ground for the bird during the migratory season as the bird migrated in the Central Asian Flyway.
CHORDATA/AVES	<i>Threskiornis melanocephalus</i> 	<input 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"/>				NT 	<input type="checkbox"/>	<input type="checkbox"/>	Protected under Schedule II (Part B) of the Wild Life (Protection) Amendment Act, 2022.	The site acts as a feeding ground and the birds breed in the trees in the wetland.

1) Percentage of the total biogeographic population at the site

GBIF Secretariat (2019). GBIF Backbone Taxonomy. Checklist dataset <https://doi.org/10.15468/39omej> accessed via GBIF.org on 2020-07-15.

Optional text box to provide further information on animal species of international importance:

(This field is limited to 3000 characters)

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
<no data available>			

Optional text box to provide further information

(This field is limited to 4000 characters)

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

4.1 - Ecological character

Please summarize the ecological components, processes and services which are critical to determining the ecological character of the site. Please also summarize any natural variability in the ecological character of the site, and any known past or current change

(This field is limited to 4000 characters)

The landscape harbors diverse habitat structure and thus the Kazhuveli wetland supports more than 750 species of flora and fauna. The diversity includes about 229 species of birds, 14 species of mammals, 85 species of fish, 72 species of butterflies, 39 species of reptiles, 13 species of amphibians, 242 species of plants and several other invertebrates. The region falls under the South-Eastern Coastal Plains and climate is characterized by temperatures in the range between 28° and 39°C and humidity levels exceeding 60% for most of the year. The bulk of the 1200mm of average rainfall is received during the Northeast monsoon during the end of October and November, which signals the onset of the migratory season for the numerous winter migrants to the wetland.

The Kazhuveli wetland lies in the Varahanadhi basin, the surplus water from the upstream rivers finally reaches the wetland before entering the Bay of Bengal through the Yedayanthittu estuary via Uppukalli creek. The surface run off water from the surrounding area also reaches the wetland. During high tide and times of natural calamities such as cyclones the sea water enters the wetland through the creek. Salinity levels in the wetlands therefore have a gradient from fresh in the south to saline in the north with spikes in the vicinity of aquaculture and salt pans. The level of salinity increases during the dry season and gets washed out into the estuary and Bay of Bengal during the monsoon. The Site provides provisional ecosystem services like maintaining the hydrological regime of the area, protects soil from erosion, regulates climate and reduces hazards by acting as a buffer during floods and extreme rainfalls.

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

Please list all wetland types which occur on the site, and for each of them:

- rank the four most abundant types by area from 1 (greatest extent) to 4 (least extent) in the third column,
- if the information exists, provide the area (in ha) in the fourth column
- if this wetland type is used for justifying the application of Criterion 1, indicate if it is representative, rare or unique in the last column
- you can give the local name of the wetland type if different from the Ramsar classification system in the second column

Marine or coastal wetlands

Wetland types (code and name)	Local name	Ranking of extent (1: greatest - 4: least)	Area (ha) of wetland type	Justification of Criterion 1
J: Coastal brackish / saline lagoons	Kazhuveli wetland	1	5151.6	Representative

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
<no data available>				

Human-made wetlands

Wetland types (code and name)	Local name	Ranking of extent (1: greatest - 4: least)	Area (ha) of wetland type
<no data available>			

What non-wetland habitats are within the site?

Other non-wetland habitat

Other non-wetland habitats within the site	Area (ha) if known
<no data available>	

idem

(ECD) Habitat connectivity

4.3 - Biological components

4.3.1 - Plant species

GBIF Secretariat (2019). GBIF Backbone Taxonomy. Checklist dataset <https://doi.org/10.15468/39omei>, accessed via GBIF.org on 2020-07-15.

Other noteworthy plant species

Phylum	Scientific name	Position in range / endemism / other
TRACHEOPHYTALILIOPSISIDA	<i>Borassus flabellifer</i>	Native to the Indian region and Bangladesh in the Indian subcontinent and to Cambodia, Laos, Myanmar, Thailand and Vietn
TRACHEOPHYTAMAGNOLIOPSISIDA	<i>Calotropis gigantea</i>	The native range of this species is S. China to Tropical Asia
TRACHEOPHYTAMAGNOLIOPSISIDA	<i>Ficus religiosa</i>	The species is found thought India. The native range of this species is SE. Pakistan to Myanmar.
TRACHEOPHYTAMAGNOLIOPSISIDA	<i>Pongamia pinnata</i>	The native range of this species is Tropical & Subtropical Asia to W. Pacific. It is a shrub or tree and grows primarily
TRACHEOPHYTAMAGNOLIOPSISIDA	<i>Syzygium cumini</i>	The native range of this species is Tropical & Subtropical Asia to N. Queensland. It is a tree and grows primarily in th
TRACHEOPHYTAMAGNOLIOPSISIDA	<i>Terminalia catappa</i>	The native range of this species is Comoros, Madagascar, Tropical & Subtropical Asia to Pacific, N. Australia.
TRACHEOPHYTAMAGNOLIOPSISIDA	<i>Vachellia nilotica</i>	The native range of this species is Dry parts of Africa, Arabian Peninsula, Indian Subcontinent to Myanmar.

Invasive alien plant species

Phylum	Scientific name	Impacts
TRACHEOPHYTALILIOPSISIDA	<i>Eichhornia crassipes</i>	Actual (major impacts)
TRACHEOPHYTAMAGNOLIOPSISIDA	<i>Ipomoea carnea</i>	Actual (major impacts)
TRACHEOPHYTAMAGNOLIOPSISIDA	<i>Parthenium hysterophorus</i>	Actual (minor impacts)
TRACHEOPHYTAMAGNOLIOPSISIDA	<i>Prosopis juliflora</i>	Actual (major impacts)

GBIF Secretariat (2019). GBIF Backbone Taxonomy. Checklist dataset <https://doi.org/10.15468/39omej> accessed via GBIF.org on 2020-07-15.

Optional text box to provide further information

(This field is limited to 2500 characters)

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/AVES	<i>Accipiter badius</i>				Appendix II of CMS
CHORDATA/AVES	<i>Anas acuta</i>				Appendix II of CMS, Protected under Schedule IV of wildlife protection Act 1972
CHORDATA/AVES	<i>Anas clypeata</i>				Appendix II of CMS, Protected under Schedule IV of wildlife protection Act 1972
CHORDATA/AVES	<i>Anas penelope</i>				Appendix II of CMS, protected under Schedule IV of wildlife protection Act 1972
CHORDATA/AVES	<i>Anas querquedula</i>				Appendix II of CMS, Protected under Schedule IV of wildlife protection Act 1972

Phylum	Scientific name	Pop. size	Period of pop. est.	% occurrence	Position in range /endemism/other
CHORDATA/AVES	<i>Ardea alba</i>				Appendix II of CMS, Protected under Schedule IV of wildlife protection Act 1972
CHORDATA/AVES	<i>Ardea purpurea</i>				Appendix II of CMS, Protected under Schedule IV of wildlife protection Act 1972
CHORDATA/AVES	<i>Arenaria interpres</i>				Appendix II of CMS
CHORDATA/AVES	<i>Athene brama</i>				CITES appendices II, Protected under Schedule IV of wildlife protection Act 1972
CHORDATA/REPTILIA	<i>Atretium schistosum</i>				CITES appendices III, Schedule II (Part II) of wildlife protection Act 1972
CHORDATA/AVES	<i>Bubo bengalensis</i>				CITES appendices II, Protected under Schedule IV of wildlife protection Act 1972
CHORDATA/AVES	<i>Calidris alpina</i>				Appendix II of CMS
CHORDATA/AVES	<i>Calidris minuta</i>				Appendix II of CMS
CHORDATA/AVES	<i>Calidris temminckii</i>				Appendix II of CMS
CHORDATA/AVES	<i>Charadrius alexandrinus</i>				Appendix II of CMS, Protected under Schedule IV of wildlife protection Act 1972
CHORDATA/AVES	<i>Charadrius leschenaultii</i>				Appendix II of CMS, Protected under Schedule IV of wildlife protection Act 1972
CHORDATA/AVES	<i>Ciconia ciconia</i>				Appendix II of CMS, Protected under Schedule IV of wildlife protection Act 1972
CHORDATA/AVES	<i>Ciconia episcopus</i>				Protected under Schedule II (Part B) of the Wild Life (Protection) Amendment Act, 2022.
CHORDATA/AVES	<i>Circaetus gallicus</i>				Appendix II of CMS
CHORDATA/AVES	<i>Circus melanoleucos</i>				Appendix II of CMS
CHORDATA/AVES	<i>Circus pygargus</i>				Appendix II of CMS
CHORDATA/AVES	<i>Circus spilonotus</i>				Appendix II of CMS
CHORDATA/REPTILIA	<i>Daboia russelii</i>				CITES appendices III, Schedule II (Part II) of wildlife protection Act 1972
CHORDATA/REPTILIA	<i>Eryx johnii</i>				Near Threatened
CHORDATA/AVES	<i>Esacus recurvirostris</i>				Protected under Schedule II (Part B) of the Wild Life (Protection) Amendment Act, 2022.
CHORDATA/AMPHIBIA	<i>Euphlyctis hexadactylus</i>				Appendix II of CMS, Schedule IV of wildlife protection Act 1972
CHORDATA/AVES	<i>Falco tinnunculus</i>				CITES appendices II, Appendix II of CMS, Schedule IV of wildlife protection Act 1972
CHORDATA/AVES	<i>Fulica atra</i>				Appendix II of CMS, Schedule IV of wildlife protection Act 1972

Phylum	Scientific name	Pop. size	Period of pop. est.	% occurrence	Position in range /endemism/other
CHORDATA/AVES	<i>Gallinago gallinago</i>				Appendix II of CMS, Schedule IV of wildlife protection Act 1972
CHORDATA/AVES	<i>Gelochelidon nilotica</i>				Appendix II of CMS
CHORDATA/AVES	<i>Hieraaetus pennatus</i>				Appendix II of CMS
CHORDATA/AVES	<i>Himantopus himantopus</i>				Appendix II of CMS, Schedule IV of wildlife protection Act 1972
CHORDATA/AMPHIBIA	<i>Hoplobatrachus tigerinus</i>				Appendix II of CMS, Schedule IV of wildlife protection Act 1972
CHORDATA/AVES	<i>Hydroprogne caspia</i>				Appendix II of CMS
ARTHROPODA/INSECTA	<i>Hypolimnas misippus</i>				Protected under Schedule II (Part H) of the Wild Life (Protection) Amendment Act, 2022.
CHORDATA/REPTILIA	<i>Melanochelys trijuga</i>				CITES appendices II
CHORDATA/AVES	<i>Milvus migrans</i>				Appendix II of CMS
CHORDATA/REPTILIA	<i>Naja naja</i>				CITES appendices II, Schedule II (Part II) of wildlife protection Act 1972
CHORDATA/AVES	<i>Numenius phaeopus</i>				Appendix II of CMS
CHORDATA/AVES	<i>Pavo cristatus</i>				Protected under Schedule I (Part B) of the Wild Life (Protection) Amendment Act, 2022.
CHORDATA/AVES	<i>Pernis ptilorhynchus</i>				Appendix II of CMS
CHORDATA/AVES	<i>Philomachus pugnax</i>				Appendix II of CMS
CHORDATA/AVES	<i>Phoenicopterus roseus</i>				CITES appendices II, Appendix II of CMS
CHORDATA/AVES	<i>Platalea leucorodia</i>				Appendix II of CMS
CHORDATA/AVES	<i>Plegadis falcinellus</i>				CITES appendices II, Appendix II of CMS, Schedule IV of wildlife protection Act 1972
CHORDATA/AVES	<i>Pluvialis fulva</i>				Appendix II of CMS, Protected under Schedule IV of wildlife protection Act 1972
CHORDATA/AVES	<i>Recurvirostra avosetta</i>				Appendix II of CMS, Schedule IV of wildlife protection Act 1972
CHORDATA/AVES	<i>Sarkidiornis melanotos</i>				CITES appendices II, Appendix II of CMS, Protected under Schedule IV of wildlife protection Act 1972
CHORDATA/AVES	<i>Sterna hirundo</i>				Appendix II of CMS
CHORDATA/AVES	<i>Sternula albifrons</i>				Appendix II of CMS
CHORDATA/AVES	<i>Thalasseus bengalensis</i>				Appendix II of CMS
CHORDATA/AVES	<i>Thalasseus bergii</i>				Appendix II of CMS
CHORDATA/AVES	<i>Tringa glareola</i>				Appendix II of CMS, Schedule IV of wildlife protection Act 1972
CHORDATA/AVES	<i>Tringa ochropus</i>				Appendix II of CMS, Schedule IV of wildlife protection Act 1972

Phylum	Scientific name	Pop. size	Period of pop. est.	% occurrence	Position in range /endemism/other
CHORDATA/AVES	<i>Tringa stagnatilis</i>				Appendix II of CMS, Schedule IV of wildlife protection Act 1972
CHORDATA/AVES	<i>Tringa totanus</i>				Appendix II of CMS
ARTHROPODA/INSECTA	<i>Troides minos</i>				CITES appendices II
CHORDATA/AVES	<i>Tyto alba</i>				CITES appendices II, Schedule IV of wildlife protection Act 1972
CHORDATA/REPTILIA	<i>Xenochrophis melanzostus</i>				CITES appendices III, Schedule II (Part II) of wildlife protection Act 1972
CHORDATA/AVES	<i>Xenus cinereus</i>				Appendix II of CMS

GBIF Secretariat (2019). GBIF Backbone Taxonomy. Checklist dataset <https://doi.org/10.15468/39omei> accessed via GBIF.org on 2020-07-15.

Invasive alien animal species

Phylum	Scientific name	Impacts
CHORDATA/ACTINOPTERYGII	<i>Clarias gariepinus</i>	Actual (major impacts)
CHORDATA/ACTINOPTERYGII	<i>Ctenopharyngodon idella</i>	Actual (major impacts)
CHORDATA/ACTINOPTERYGII	<i>Cyprinus carpio</i>	Actual (major impacts)
CHORDATA/ACTINOPTERYGII	<i>Hypophthalmichthys molitrix</i>	Actual (major impacts)
CHORDATA/ACTINOPTERYGII	<i>Oreochromis mossambicus</i>	Actual (major impacts)

GBIF Secretariat (2019). GBIF Backbone Taxonomy. Checklist dataset <https://doi.org/10.15468/39omei> accessed via GBIF.org on 2020-07-15.

Optional text box to provide further information

(This field is limited to 2500 characters)

4.4 - Physical components

4.4.1 - Climate

Please indicate the prevailing climate type(s) by selecting below the climatic region(s) and subregion(s), using the Köppen-Gieger Climate Classification System.

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

If changing climatic conditions are affecting the site, please indicate the nature of these changes:

(This field is limited to 1000 characters)

The ecological character of the site is predominantly influenced by rainfall and the water inflow from the estuary and the upper water shed hence the failure of moon soon and natural calamities such as flood can have a major impact on the wetland and surrounding area.

4.4.2 - Geomorphic setting

a) Minimum elevation above sea level (in metres)

a) Maximum elevation above sea level (in metres)

b) Position in landscape/river basin:

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 field is limited to 1000 characters)

The Kazhuveli wetland lies in the Varahanadhi basin is one of the 17 major river basins and is located in the Villupuram, Thiruvannamalai, Kancheepuram and Cuddalore districts of Tamil Nadu and Pondicherry state of union territory. The total area of the basin is 4498.5 sq.km. The Varahanadhi basin is surrounded by Bay of Bengal in the east. Palar basin in the north and Ponnaiyar basin in the south and west. The basin is situated between north latitude 11° 50' 00" to 12° 28' 00" and east longitude 79° 08' 00" to 80° 10' 00". The Kaluveli wetland is a major swampy area lying in the eastern part of the basin at the tail end along the seacoast extending from Marakkanam to Pondichery State border. The surplus water of Kazhuveli finds its way to feed Yedayanthittu estuary where Ongur river confluences near Marakkanam. Finally Ongur river confluences with Bay of Bengal. The Kazhuveli wetland flows in the northeast direction. The wetland lies in the Nallavur River Sub 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

Please provide further information on the soil (optional)

(This field is limited to 1000 characters)

The soil of the lake bed, foreshore and ayacuts on the west are sandy loamy and clayey in nature. pH varies widely in the bed (4.5 – 8.4) and to a far less extent in the agricultural fields. Electrical conductivity also varies widely in the bed (0.1 – 5.3mS/cm) and foreshore (0.1 – 3.2mS/cm), but was consistently low showing an increasing trend from south to north. The nutrients also varies more widely in the foreshore (N:30-135; P:1.2-62 and K:29-378) and in lake bed (N:65-88; P:1.9-129 and K:34- 600) and to a far less extent in (N:65-88; P:0.8-11; and .0-105).

4.4.4 - Water regime

Water permanence

Presence?	
Usually permanent water present	No change

Source of water that maintains character of the site

Presence?	Predominant water source	
Water inputs from precipitation	<input type="checkbox"/>	No change
Water inputs from surface water	<input checked="" type="checkbox"/>	No change
Marine water	<input type="checkbox"/>	No change

Water destination

Presence?	
Feeds groundwater	No change
Marine	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 field is limited to 2000 characters)

The Kazhuveli wetland lies in the Varahanadhi basin, the surplus water from the upstream rivers finally reaches the wetland before entering the Bay of Bengal through the Yedayanthittu estuary via Uppukalli creek. The surface run off water from the surrounding area also reaches the wetland. During high tide and times of natural calamities such as cyclones the sea water enters the wetland through the creek.

(ECD) Connectivity of surface waters and of groundwater	<input type="text"/>
(ECD) Stratification and mixing regime	<input type="text"/>

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

Please provide further information on sediment (optional):

(This field is limited to 1000 characters)

The watershed which drains into Kazhuveli lake covers an area of 723.29km² brings in a flow of fresh water along with sediment and associated nutrients and other contaminants during the monsoon months. There are large amounts of sediment and nutrients that enter the lake by way of drainage from agricultural fields.

(ECD) Water turbidity and colour	<input type="text"/>
(ECD) Light - reaching wetland	<input type="text"/>
(ECD) Water temperature	<input type="text"/>

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):

(This field is limited to 1000 characters)

The pH of the wetland depends predominantly on the fresh water inflow and the tidal action. The water in flow due to precipitation and rivers play a major role and the monsoon also plays a major role as the wetland receives most of the rain during the monsoon.

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

Please provide further information on salinity (optional):

(This field is limited to 1000 characters)

The northern parts of the wetland are increasingly saline, the salinity levels being the highest at the Ediyanthittu due to the salt pans at the mouth of the estuary near the Alambara fort. The Uppukalli creek is a long neck which joins the southern and western fresh water body with the saline estuarine portion to the north east. Paddy fields along this creek have now been converted to shrimp farms. Salinity levels in the wetlands therefore have a gradient from fresh in the south to saline in the north with spikes in the vicinity of aquaculture and salt pans. The levels of salinity increases during the dry season and gets washed out into the estuary and Bay of Bengal during the monsoon.

(ECD) Dissolved gases in water

(This field is limited to 1000 characters)

4.4.8 - Dissolved or suspended nutrients in water

Eutrophic

Mesotrophic

Oligotrophic

Dystrophic

Unknown

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

(This field is limited to 1000 characters)

(ECD) Dissolved organic carbon	<input type="text"/>
(ECD) Redox potential of water and sediments	<input type="text"/>
(ECD) Water conductivity	<input type="text"/>

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

If the surrounding area differs from the Ramsar Site, please indicate how: (Please tick all categories that apply)

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:

(This field is limited to 2000 characters)

Riparian regions of the wetland consist of irrigated agriculture and Plantations such as coconut and casuarina. Dryland areas around the wetland are under dryland crops and plantations such as cashew, Acacia auriculiformis and Casuarina. The most environmentally disruptive activity taking place around the Kazhuveli wetlands is the conversion of fresh water paddies to brackish water aquaculture and that of natural mud flats to salt pans. This has a direct impact on the salinity levels and nutrients and biological waste released from these units could play an important role in shaping the ecology of their surroundings. Land use in the region changes accordingly with an increase in aquaculture and salt production which peaks during the summer and pre-monsoon while the area under cultivation increasing along with the monsoon and seasonally encroached areas cultivated in the receding waters of the coastal wetlands.

4.5 - Ecosystem services

4.5.1 - Ecosystem services/benefits

Please select below all relevant ecosystem services/benefits currently provided by the site and indicate their relative importance in the right-hand column.

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	Medium
Wetland non-food products	Livestock fodder	Medium
Wetland non-food products	Reeds and fibre	Medium

Regulating Services

Ecosystem service	Examples	Importance/Extent/Significance
Erosion protection	Soil, sediment and nutrient retention	High
Climate regulation	Local climate regulation/buffering of change	High

Cultural Services

Ecosystem service	Examples	Importance/Extent/Significance
Recreation and tourism	Nature observation and nature-based tourism	Medium
Scientific and educational	Long-term monitoring site	High

Supporting Services

Ecosystem service	Examples	Importance/Extent/Significance
Biodiversity	Supports a variety of all life forms including plants, animals and microorganisms, the genes they contain, and the ecosystems of which they form a part	High
Nutrient cycling	Storage, recycling, processing and acquisition of nutrients	High

Optional text box to provide further information

(This field is limited to 2500 characters)

Other ecosystem service(s) not included above:

(This field is limited to 2000 characters)

Please make a rough estimate of the approximate number of people (**distinguish between residents and visitors if possible**) who directly benefit from the ecological services provided by this site (estimate at least in orders of magnitude: 10s, 100s, 1000s, 10 000s etc.):

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

Where economic studies or assessments of economic valuation have been undertaken at the site, it would be helpful to provide information on where the results of such studies may be located (e.g. website links, citation of published literature):

(This field is limited to 2500 characters)

4.5.2 - Social and cultural values

Is the site considered internationally important for holding, in addition to relevant ecological values, examples of significant cultural values, whether material or non-material, linked to its origin, conservation and/or ecological functioning? If so, please describe this importance under one or more of the four following categories. You should not list here any values derived from non-sustainable exploitation or which result in detrimental ecological changes.

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

(This field is limited to 2500 characters)

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

Description if applicable

(This field is limited to 2500 characters)

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

Description if applicable

(This field is limited to 2500 characters)

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

(This field is limited to 2500 characters)

4.6 - Ecological processes

This section is not intended for completion as part of a standard RIS, but is included for completeness as part of the agreed format of a 'full' Ecological Character Description (ECD) outlined by Resolution X.15

(ECD) Primary production	<input type="text"/>
(ECD) Nutrient cycling	<input type="text"/>
(ECD) Carbon cycling	<input type="text"/>
(ECD) Animal reproductive productivity	<input type="text"/>

RIS for Site no. , Kazhuveli Bird Sanctuary, India

(ECD) Vegetational productivity, pollination, regeneration processes, succession, role of fire, etc.	
(ECD) Notable species interactions, including grazing, predation, competition, diseases and pathogens	
(ECD) Notable aspects concerning animal and plant dispersal	
(ECD) Notable aspects concerning migration	
(ECD) Pressures and trends concerning any of the above, and/or concerning ecosystem integrity	

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 checked="" type="checkbox"/>

Private ownership

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

Other

Category	Within the Ramsar Site	In the surrounding area
Unspecified mixed ownership	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Commoners/customary rights	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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

(This field is limited to 1000 characters)

5.1.2 - Management authority

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

(This field is limited to 1000 characters)

Office of the District Forest Officer, Villupuram Division

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

The District Forest Officer, Villupuram Division

Postal address:

(This field is limited to 1000 characters)

District Forest Officer, Villupuram Division No:23A
Ranganathan Street,
Poonthottam,
Villupuram 605602

E-mail address:

dfovpm@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	Medium impact	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Commercial and industrial areas	Medium impact	Medium 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
Salinisation	Medium impact	Medium impact	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Canalisation and river regulation	High impact	High impact	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Agriculture and aquaculture

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

Energy production and mining

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

Transportation and service corridors

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
<no data available>				

Biological resource use

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Hunting and collecting terrestrial animals	Medium impact	Medium impact	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Gathering terrestrial plants	Low impact	Low impact	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Fishing and harvesting aquatic resources	High impact	High impact	<input 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
<no data available>				

Natural system modifications

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Dams and water management/use	High impact	High impact	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Vegetation clearance/land conversion	High impact	High 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
Invasive non-native/ alien species	High impact	High 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	Medium impact	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Industrial and military effluents	Medium impact	Medium impact	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Agricultural and forestry effluents	Medium impact	Medium impact	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Geological events

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
<no data available>				

Climate change and severe weather

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

Please describe any other threats (optional):

(This field is limited to 3000 characters)

5.2.2 - Legal conservation status

Please list any other relevant conservation status, at global, regional or national level and specify the boundary relationships with the Ramsar Site:

Global legal designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
<no data available>			

Regional (international) legal designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
<no data available>			

National legal designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
Bird Sanctuary	Kazhuveli Bird Sanctuary	http://cms.tn.gov.in/sites/default/files/go/eccf_e_123_2021.pdf	whole

Non-statutory designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
Important Bird Area	Kaliveli Tank and Yeduyanthittu estuary	http://datazone.birdlife.org/site/factsheet/kaliveli-tank-and-yeduyanthittu-estuary-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

5.2.4 - Key conservation measures

Legal protection

Measures	Status
Legal protection	Implemented

Habitat

Measures	Status
Habitat manipulation/enhancement	Implemented
Faunal corridors/passage	Implemented

Species

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

Human Activities

Measures	Status
Harvest controls/poaching enforcement	Implemented
Communication, education, and participation and awareness activities	Partially implemented

Other:

(This field is limited to 3000 characters)

5.2.5 - Management planning

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

Is the management plan/planning implemented? Yes No

The management plan covers All of Ramsar Site

Is the management plan currently subject to review and update? Yes No

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

Please give link to site-specific plan or other relevant management plan if this is available via the Internet or upload it in section 'Additional material':

(This field is limited to 500 characters)

<https://forests.tn.gov.in/storage/tmf/e6d5aaa1-e315-41de-bf4a-c8a2c4db0fc6.08>

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:

(This field is limited to 1000 characters)

The Forest Department conduct some educational activities in the site.

URL of site-related webpage (if relevant):

5.2.6 - Planning for restoration

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

Has the plan been implemented? Yes No

The restoration plan covers: All of Ramsar Site

Is the plan currently being reviewed and updated? Yes No

Where the restoration is being undertaken to mitigate or respond to a threat or threats identified in this RIS, please indicate it / them:

(This field is limited to 1000 characters)

Further information

(This field is limited to 2500 characters)

Conservation measures are being undertaken as per the Government Orders. The efforts include improving the wildlife habitats by extending and strengthening the area wherever required, ensuring connectivity of habitats management of wildlife resources at Landscape level, harnessing the sentiments of tribal and forest dwellers in wildlife management while ensuring livelihood security, protecting the migratory birds by wetland habitat conservation through periodic inventory of avifauna and other biodiversity, and understanding the lesser known diversity for conservation gains.

5.2.7 - Monitoring implemented or proposed

Monitoring	Status
Birds	Implemented

Please indicate other monitoring activities:

(This field is limited to 3000 characters)

6 - Additional material

6.1 - Additional reports and documents

6.1.1 - Bibliographical references

(This field is limited to 3000 characters)

1. <https://ebird.org/hotspot/L2528909?yr=all&m=&rank=hc>
2. Frank et al. (2021), Heronry distribution and site preference dynamics of tree-nesting colonial waterbirds in Tamil Nadu. PeerJ 9:e12256 DOI 10.7717/peerj.12256.
3. National Wetland Atlas: Tamilnadu, SAC/RESA/AFEG/NWIA/ATLAS/22/2009, Space Applications Centre (ISRO), Ahmedabad, India, 222p.
4. Management Plan for Kazhuveli Bird Sanctuary for the period 2023 - 2033 by Tamil Nadu Forest Department.
5. Subramanya, S (2005) Heronries of Tamil Nadu. Indian Birds 1(6): 126-140.
6. Ali, S. and Ripley, D. (1983). Handbook of the Birds of India and Pakistan: Vol 1-10, OUP India hardcover 3121 pages, illustrated. ISBN: 0195655060.

6.1.2 - Additional reports and documents

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

 [IN_taxo231228.xlsx](#)

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

 [IN_mgt231221.pdf](#)

vi. other published literature

 [IN_lit240731.pdf](#)

 [IN_lit240731_1.pdf](#)

Please note that any documents uploaded here will be made publicly available.

6.1.3 - Photograph(s) of the Site

Please provide at least one photograph of the site:



Landscape image of the Kazhuveli Bird Sanctuary (Tamil Nadu Forest Department, 07-02-2020)



Landscape image of the Kazhuveli Bird Sanctuary (Tamil Nadu Forest Department, 31-10-2020)



A flock of Black-headed Ibis flying in the Kazhuveli Bird Sanctuary (Tamil Nadu Forest Department, 29-01-2020)



A flock of Greater Flamingo flying around the Kazhuveli Bird Sanctuary (Tamil Nadu Forest Department, 04-01-2020)



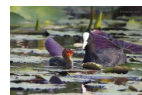
Golden Jackal found in Kazhuveli Bird Sanctuary (Tamil Nadu Forest Department, 14-03-2022)



Flock of Spot-billed Pelican resting on the bund in Kazhuveli Bird Sanctuary (Tamil Nadu Forest Department, 08-03-2021)



Flock of Painted Stork and Egrets foraging in the Kazhuveli Bird Sanctuary (Tamil Nadu Forest Department, 31-03-2021)



Eurasian Coot with its juvenile (Tamil Nadu Forest Department, 02-02-2022)



Painted Stork in Kazhuveli Bird Sanctuary (Tamil Nadu Forest Department, 21-01-2021)

6.1.4 - Designation letter and related data

Designation letter

 [IN_DesLet240116_16.01.2024 from AA to SG Kazhuveli Bird Sanctuary16012024.pdf](#)

Date of Designation