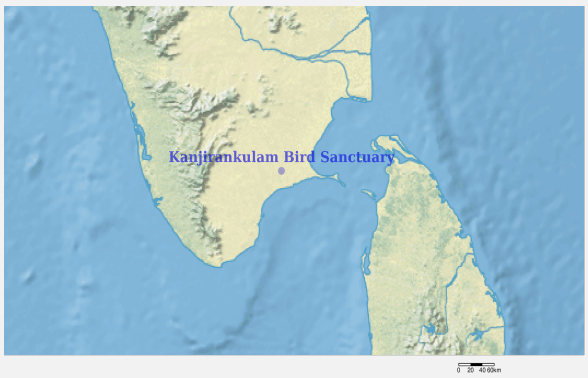
Ramsar Information Sheet

Published on 31 October 2022

India

Kanjirankulam Bird Sanctuary



Designation date	8 April 2022
Site number	2486
Coordinates	09°21'35"N 78°28'44"E
Area	96,89 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

Kanjirankulam Bird Sanctuary is a Protected area near Mudukulathur Ramanathapuram District, Tamil Nadu. India, declared in 1989. It is notable as a nesting site for several migratory heron species that roost in the prominent growth of babul trees there. The sanctuary vegetation is mostly tropical dry deciduous forest. It is dominated by babul along with Prosopis juliflora and the grasses Bermuda grass and Eremopogon foveolatus. The invasive Prosopis is slowly encroaching on much of the sanctuary area, retarding growth of babuls. The irrigation tank bund and the area outside the tank have tamarind trees, fig trees, neem trees, portia trees, silk trees (Albizzia amara), drumstick trees, and palmyra palms. The breeding population of migratory waterbirds arrive here between October and February and include: painted stork, white ibis, black ibis, little egret, great egret. The site qualifies as an IBA as the threatened Spot-billed Pelican Pelecanus philippensis breeds here. There are five sluices that drain water to the agricultural lands. The wetland is irregular in depth and retains water for 3 to 5 months if rain is normal. Excess flood water is let out towards Chitrangudi village through a sluice gate about 0.5 km from the inlet aqueduct. The wetland performs three main ecosystem services to the fringe population in particular including hydrological regulation of floods and droughts, carbon sequestration and climate regulation, and storm protection,

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 Secretary
Ministry of Environment, Forest & 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: 2013

To year: 2019

2.1.3 - Name of the Ramsar Site

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

Unofficial name (optional): Kanjirankulam Kanmai (Tamil – Indian language, one of the oldest spoken languages extant)

2.2 - Site location

2.2.1 - Defining the Site boundaries

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

Former maps: 0

Boundaries description

Kanjirankulam Bird Sanctuary is located within the village of Kanjirankulam, Ramanathapuram district, southern Tamil Nadu, India. KBS has an estimated area divided between Keela (lower) Kanjirankulam (66.66 hectares) and in Mela (upper) Kanjirankulam (30.231 hectares). Precise boundaries as per local land records are as follows: Northern boundary: Starting from tri junction point of SF.Nos.142, 71 and 313, all of No.45 Pulvaykulam village, the boundary runs centrally towards east along southeastern and western sides of SF.No.142 till it meets the tri junction point of SF.Nos.123, 142 and 129 of the said Pulvaykulam village. Southern boundary: the boundary runs generally towards west along the northern side of SF.Nos.128, 110, 124, 125, 72, and 73 all of the said Pulvaykulam village. Eastern boundary: the boundary runs generally towards south along the western side of SF. Nos. 129,111,130 all of the said Pulvaykulam village. Western boundary: the boundary runs generally towards north along northern, eastern and Northern side of SF.Nos..142, eastern side of SF.No.312 southern, western, southern and eastern side of SF.No.313 of the said Pulvaykulam village to the starting point.

2.2.2 - General location

a) In which large administrative region does the site lie? Peraiyur Panchayat, Mudukulathur Taluk, Ramanathapuram District, Tamilnadu, India

b) What is the nearest town or population centre? Paramakudi, Madurai and Ramanathapuram towns

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): 96.891

Area, in hectares (ha) as calculated from GIS boundaries: 96.891

2.2.5 - Biogeography

Biogeographic regions

Regionalisation scheme(s)	Biogeographic region
WWF Terrestrial Ecoregions	Represents the Indo-Malayan region & Specifically represents Deccan thorn scrub forests (IMI301).
Freshwater Ecoregions of the World (FEOW)	Southeastern ghats-716

Other biogeographic regionalisation scheme

Represents the Indo-Malayan region under the WWF Terrestrial Ecoregions classification. Specifically, represents Deccan thorn scrub forests (IMI301); classified as southern tropical thorn scrub, as defined by Champion and Seth (1968), but includes patches of tropical dry deciduous forests, which are believed to be the original vegetation. The former consists of open, low vegetation characterized by thorny trees with short trunks height of 6-9 m, and low branching crowns that rarely meet to form a closed canopy. The second story is poorly developed and consists of spiny and xerophytic species, mostly shrubs. Due to low rainfall the vegetation is made up of open thorny forests with scattered Acacia species are characterized by umbrella-shaped crowns. This vegetation is described as Carnatic umbrella thorn forests by Champion and Seth (1968).

KBS falls within the semi- arid biogeographic region, which is typical of a landscape that is in the proximity of a gulf in a warm sea viz, the Bay of Bengal. This tropical landscape receives rain under the influence of both southwest and northeast monsoons. Most of the precipitation occurs in the form of cyclonic storms caused due to the depressions in Bay of Bengal. The southwest monsoon rainfall is highly erratic and during summer, rains are negligible. Normal annual rainfall is 827 mm with high rainfall along the coast decreasing inland. The relative humidity is between 79 and 84%. The mean minimum temperature is 25.7°C, and mean maximum temperature is 30.6°C. For management, the classification by Rodgers and Panwar of the Wildlife Institute of India is used. According to this Scheme, the wetland falls in the East Coast (Gulf) Biogeographic Zone of India.

3 - Why is the Site important?

3.1 - Ramsar Criteria and their justification

<no data available>

☑ Criterion 2 : Rare species and threatened ecological communities

Optional text box to provide further information: The wetland supports IUCN RedList vulnerable avian species like Sterna aurantia (River Tern).

☑ Criterion 3 : Biological diversity

Justification: The wetland exhibits rich biodiversity including many globally near-threatened species like Spot-billed Pelican, Oriental Darter, Oriental white Ibis and Painted Stork and also commonly occurring shore and water birds like greenshank, plovers, stilts and forest birds like bee-eaters, bulbuls, cuckoos, starlings, barbets, etc. They act as breeding, nesting, roosting, foraging, and stopover sites for the birds. The vulnerable Golden Jackal is also known to be found here. Apart from birds that predominate both water and the surrounding landscape, lesser mammals like the bandicoot rat, Indian grey Mongoose, Black-naped Hare, and Bandicoot rat, reptiles like Indian spotted Gecko, Monitor lizard, Checkered keelback, Buff striped Keelback, Indian Cobra, Indian black Turtle and amphibians like the Indian common Toad and Skipper Frog. Therefore, it supports populations of plant and animal species important for maintaining the biological diversity of this biogeographic realm.

End year: 2021

☑ Criterion 6 : >1% waterbird population

Optional text box to provide further information: The wetland regularly supports more than 1% population of waterbird species like Anhinga melanogaster.

☑ Criterion 7 : Significant and representative fish

Justification: About 15 species of fish are known to use the site for feeding, breeding and migration purposes from adjoining inlets and vice-versa. Of these, 70% are endemic to the biodiversity of the region. Many fishes display migration cues i.e., some are local migrants while others are long distance migrants. The species which use this site for feeding, breeding and migration include Lepidocephalichthys annandalei, Hemibagrus maydelli, Barbonymus gonionotus, Alcolapia alcalica, Channa aurantimaculata, Channa striata, Corydoras hastatus, Heteropneustes fossilis, Hyporhamphus limbatus, Lepidocephalichthys thermalis, Mystus gulio, Mystus vittatus, Parambassis ranga, Pethia conchonius, and Pethia ticto.

☑ Criterion 8 : Fish spawning grounds, etc.

Justification: Kanjirankulam serves as a feeding and spawning ground for several fish species such as Lepidocephalichthys annandalei, Hemibagrus maydelli, Barbonymus gonionotus, Alcolapia alcalica, Channa aurantimaculata, Channa striata, Corydoras hastatus, Heteropneustes fossilis, Hyporhamphus limbatus, Lepidocephalichthys thermalis, Mystus gulio, Mystus vittatus, Parambassis ranga, Pethia conchonius, and Pethia ticto., which periodically use (disperse/migrate) the site throughout the year to complete their life cycle.

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								
Others																	
CHORDATA / AMPHIBIA	*Euphlyctis cyanophlyctis*	☐	☐	☐	☐	☑	☐	☐	☐				LC	☐	☐		
CHORDATA / REPTILIA	*Melanochelys trijuga*	☐	☐	☐	☐	☑	☐	☐	☐				LC	☐	☐		
Fish, Mollusc and Crustacea																	
CHORDATA / ACTINOPTERYGII	*Alcolapia alcalica*	☐	☐	☐	☐	☐	☐	☑	☑					☐	☐		
CHORDATA / ACTINOPTERYGII	*Ambassis ambassis*	☐	☐	☐	☐	☐	☐	☑	☐				LC	☐	☐		
CHORDATA / ACTINOPTERYGII	*Anabas testudineus*	☐	☐	☐	☐	☐	☐	☑	☐				LC	☐	☐		
CHORDATA / ACTINOPTERYGII	*Barbonymus gonionotus*	☐	☐	☐	☐	☐	☐	☑	☐				LC	☐	☐		
CHORDATA / ACTINOPTERYGII	*Corydoras hastatus*	☐	☐	☐	☐	☐	☐	☐	☑					☐	☐		
CHORDATA / ACTINOPTERYGII	*Hemibagrus maydelli*	☐	☐	☐	☐	☐	☐	☐	☑				LC	☐	☐		
CHORDATA / ACTINOPTERYGII	*Lepidocephalichthys annandalei*	☐	☐	☐	☐	☐	☐	☐	☑				LC	☐	☐		
CHORDATA / ACTINOPTERYGII	*Rasbora daniconius*	☐	☐	☐	☐	☐	☐	☑	☐				LC	☐	☐		
Birds																	
CHORDATA / AVES	*Anhinga melanogaster*	☐	☐	☑	☐	☐	☐	☐	☐	3000	2016	75	NT	☐	☐		
CHORDATA / AVES	*Mycteria leucocephala*	☐	☐	☐	☐	☑	☐	☐	☐				NT	☐	☐		
CHORDATA / AVES	*Pelecanus philippensis*	☐	☐	☐	☐	☑	☐	☐	☐				NT	☐	☐		
CHORDATA / AVES	*Sterna aurantia*	☑	☐	☐	☐	☐	☐	☐	☐				VU	☐	☐		Vulnerable species and therefore qualifies for criteria 2.
CHORDATA / AVES	*Threskiornis melanocephalus*	☐	☐	☐	☐	☑	☐	☐	☐				NT	☐	☐		

1) Percentage of the total biogeographic population at the site

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

<no data available>

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

4.1 - Ecological character

Kanjirankulam Bird Sanctuary (KBS) is located between 9º 21' N and 78º 30' E in Ramanathapuram district, southern part of Tamil Nadu. Spreading just over 96 ha, the wetland provides nesting grounds for migratory and colonial waterbirds during winter. KBS also represents the legacy of hydrological wisdom that the landscape celebrates. Located on the tail end of River Gundar, a biodiversity hotspot, KBS was carved out of the Raghunada Cauvery canal that was dug out by the Maravar Kings. There are no diverse habitat types like islands, mounds, emergent vegetation in the sanctuary. It is a near homogenous tank-like structure with dense overgrowth of Prosopis (Seemai Karuvelam) and intermittent plantations of Acacia nilotica. The North Western portion of the wetland retains water even during summer. The wetland is irregular in terms of depth and retains water for about 3 to 5 months, during normal rainfall. The habitat type is classified as a wetland with submerged trees. It offers ideal habitat for migratory waterbirds, with considerable diversity in nesting and feeding behavior. It is one of the preferred nesting sites for heronry species and colonial birds migrating to South India. Agricultural lands surround the sanctuary and mark its northern boundary. Small community forests grown over the earthen embankments of adjoining village tanks and Palmyra trees surrounded by open Prosopis scrubs typify the southern boundary. The irrigation land and the outside tank areas have a variety of grasses and medicinal plants viz., Adhatoda vasica, Sesbania grandiflora, Aloe vera, Phyllanthus emblica, Vigna mungo, Citrus medica, Moringa oleifera, Cynodon dactylon, Pongamia glabra and Azadirachta indica. Besides trees like Tamarindus Indica, Ficus Sp, Thespesia populnea, Albizzia amara, and Palmyra (Borassus flabellifer) are also found.
The Wetland supports a diverse faunal population. It supports some of the globally near-threatened species like the spot-billed pelican, oriental darter, oriental white ibis and painted stork and also commonly occurring shore and water birds like green shank, plovers, stilts and forest birds like bee eaters, bulbuls, cuckoos, starlings, barbets etc. They act as breeding, nesting, roosting, foraging and stopover sites for the birds. Apart from birds that predominate both water and the surrounding landscape, the wetland also harbors mammals like golden jackal, bandicoot rat, Indian grey mongoose, and black naped hare; reptiles like Indian spotted gecko, monitor lizard, checkered keelback, buff striped keelback, Indian cobra, Indian black turtle and amphibians like the Indian common Toad and Skipper Frog. The wetland is home to native freshwater fish such as orange chromide, stinging catfish, dwarf catfish, spotted channa, striated channa etc.
KBS provides a wide spectrum of provisional, regulatory and supportive ecosystem services. The lives of the local communities are intrinsically linked to the wetland. Local villagers representing indigenous races of India have a symbiotic relationship with the bird communities. The surface water of the KBS is used for cultivating low -water intensity crops by the small and marginal farmers. The farmers believe that KBS helps by storing excess water and also as a natural system of nutrient removal from agricultural runoffs. The local communities also engage in opportunistic fishing. Catla, tilapia, uluvai, tin fish (Ira) and catfish are the commonly harvested species. However fishing is strictly restricted during seasons when birds visit the sanctuary

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

Inland wetlands

Wetland types (code and name)	Local name	Ranking of extent (1: greatest - 4: least)	Area (ha) of wetland type	Justification of Criterion 1
Fresh water > Marshes on inorganic soils >> Xf: Freshwater, tree-dominated wetlands	Kanmai/ Oorani	1	96.891	

Other non-wetland habitat

Other non-wetland habitats within the site	Area (ha) if known
Prosopis thicket, fallow and crop land	

(ECD) Habitat connectivity	Continuous. Most wetlands in Tamil Nadu are a part of a network of wetlands often arranged in the form of cascades, and particularly in the case of Ramnathapuram district where this site is located.

4.3 - Biological components

4.3.1 - Plant species

Other noteworthy plant species

Phylum	Scientific name	Position in range / endemism / other
TRACHEOPHYTA/MAGNOLIOPSIDA	*Abutilon indicum*	
TRACHEOPHYTA/MAGNOLIOPSIDA	*Achyranthes aspera*	
TRACHEOPHYTA/MAGNOLIOPSIDA	*Alternanthera paronychioides*	
TRACHEOPHYTA/MAGNOLIOPSIDA	*Arivela viscosa*	
TRACHEOPHYTA/MAGNOLIOPSIDA	*Azadirachta indica*	
TRACHEOPHYTA/LILIOPSIDA	*Borassus flabellifer*	
TRACHEOPHYTA/MAGNOLIOPSIDA	*Cardiospermum halicacabum*	
TRACHEOPHYTA/MAGNOLIOPSIDA	*Croton bonplandianus*	
TRACHEOPHYTA/MAGNOLIOPSIDA	*Cucumis sativus*	
TRACHEOPHYTA/LILIOPSIDA	*Cyperus arenarius*	
TRACHEOPHYTA/MAGNOLIOPSIDA	*Datura innoxia*	
TRACHEOPHYTA/MAGNOLIOPSIDA	*Glinus oppositifolius*	
TRACHEOPHYTA/MAGNOLIOPSIDA	*Hygrophila schulli*	
TRACHEOPHYTA/MAGNOLIOPSIDA	*Jatropha curcas*	
TRACHEOPHYTA/MAGNOLIOPSIDA	*Justicia adhatoda*	
TRACHEOPHYTA/MAGNOLIOPSIDA	*Martynia annua*	
TRACHEOPHYTA/MAGNOLIOPSIDA	*Morinda coreia*	
TRACHEOPHYTA/MAGNOLIOPSIDA	*Parthenium hysterophorus*	
TRACHEOPHYTA/MAGNOLIOPSIDA	*Phyllanthus amarus*	
TRACHEOPHYTA/MAGNOLIOPSIDA	*Phyllanthus reticulatus*	
TRACHEOPHYTA/MAGNOLIOPSIDA	*Pongamia pinnata*	
TRACHEOPHYTA/MAGNOLIOPSIDA	*Senna auriculata*	
TRACHEOPHYTA/MAGNOLIOPSIDA	*Tamarindus indica*	
TRACHEOPHYTA/MAGNOLIOPSIDA	*Terminalia catappa*	
TRACHEOPHYTA/MAGNOLIOPSIDA	*Tridax procumbens*	
TRACHEOPHYTA/MAGNOLIOPSIDA	*Vachellia leucophloea*	
TRACHEOPHYTA/MAGNOLIOPSIDA	*Vachellia nilotica*	
TRACHEOPHYTA/MAGNOLIOPSIDA	*Vachellia planifrons*	

Invasive alien plant species

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

4.3.2 - Animal species

Other noteworthy animal species

Phylum	Scientific name	Pop. size	Period of pop. est.	% occurrence	Position in range /endemism/other
CHORDATA/REPTILIA	*Ahaetulla nasuta*				IUCN(LC)
CHORDATA/REPTILIA	*Atretium schistosum*				IUCN(LC)
CHORDATA/MAMMALIA	*Bandicota bengalensis*				IUCN(LC)
CHORDATA/REPTILIA	*Calotes calotes*				IUCN(LC)
CHORDATA/REPTILIA	*Calotes versicolor*				IUCN(LC)
CHORDATA/MAMMALIA	*Canis aureus*				IUCN(LC)
CHORDATA/AVES	*Centropus sinensis*				IUCN(LC)
CHORDATA/ACTINOPTERYGII	*Channa aurantimaculata*				
CHORDATA/ACTINOPTERYGII	*Channa punctata*				IUCN(LC)
CHORDATA/ACTINOPTERYGII	*Channa striata*				
CHORDATA/AVES	*Dinopium benghalense*				IUCN(LC)
CHORDATA/AMPHIBIA	*Duttaphrynus melanostictus*				IUCN(LC)
CHORDATA/AVES	*Egretta garzetta*				IUCN(LC)
CHORDATA/AVES	*Egretta intermedia*				IUCN(LC)

Phylum	Scientific name	Pop. size	Period of pop. est.	% occurrence	Position in range /endemism/other
CHORDATA/ACTINOPTERYGII	*Esomus danrica*				IUCN(LC)
CHORDATA/ACTINOPTERYGII	*Etroplus maculatus*				IUCN(LC)
CHORDATA/ACTINOPTERYGII	*Etroplus suratensis*				IUCN(LC)
CHORDATA/AVES	*Euodice malabarica*				IUCN(LC)
CHORDATA/REPTILIA	*Eutropis carinata*				IUCN(LC)
CHORDATA/MAMMALIA	*Funambulus palmarum*				IUCN(LC)
CHORDATA/ACTINOPTERYGII	*Glossogobius giuris*				IUCN(LC)
CHORDATA/AVES	*Gymnoris xanthocollis*				IUCN(LC)
CHORDATA/AVES	*Halcyon smyrnensis*				IUCN(LC)
CHORDATA/AVES	*Haliastur indus*				IUCN(LC)
CHORDATA/REPTILIA	*Hemidactylus brookii*				IUCN(LC)
CHORDATA/REPTILIA	*Hemidactylus frenatus*				IUCN(LC)
CHORDATA/MAMMALIA	*Herpestes edwardsi*				IUCN(LC)
CHORDATA/ACTINOPTERYGII	*Heteropneustes fossilis*				
CHORDATA/ACTINOPTERYGII	*Hyporhamphus limbatus*				
CHORDATA/ACTINOPTERYGII	*Lepidocephalichthys thermalis*				
CHORDATA/MAMMALIA	*Lepus nigricollis*				IUCN(LC)
CHORDATA/AVES	*Lonchura punctulata*				IUCN(LC)
CHORDATA/AMPHIBIA	*Microhyla ornata*				IUCN(LC)
CHORDATA/AVES	*Milvus migrans*				IUCN(LC)
CHORDATA/ACTINOPTERYGII	*Mystus gulio*				
CHORDATA/ACTINOPTERYGII	*Mystus vittatus*				
CHORDATA/REPTILIA	*Naja naja*				IUCN(LC)
CHORDATA/ACTINOPTERYGII	*Parambassis ranga*				
CHORDATA/AVES	*Passer domesticus*				IUCN(LC)
CHORDATA/AVES	*Pavo cristatus*				IUCN(LC)
CHORDATA/ACTINOPTERYGII	*Pethia conchonius*				
CHORDATA/ACTINOPTERYGII	*Pethia ticto*				
CHORDATA/AVES	*Phoenicopterus roseus*				IUCN(LC)
CHORDATA/ACTINOPTERYGII	*Pseudosphromenus cupanus*				IUCN(LC)
CHORDATA/AVES	*Psittacula krameri*				IUCN(LC)
CHORDATA/ACTINOPTERYGII	*Puntius sophore*				IUCN(LC)
CHORDATA/ACTINOPTERYGII	*Puntius vittatus*				IUCN(LC)
CHORDATA/AMPHIBIA	*Rhinella achavali*	50			IUCN(LC)
CHORDATA/ACTINOPTERYGII	*Trichogaster lalius*				IUCN(LC)
CHORDATA/REPTILIA	*Varanus bengalensis*				IUCN(LC)
CHORDATA/REPTILIA	*Xenochrophis piscator*				IUCN(LC)

4.4 - Physical components

4.4.1 - Climate

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

Due to the unique relative position of this part of the country side, the dry south eastern part is sheltered by cardamom hills, from South East Monsoon. It is also off the path of usual advancing cyclones from Bay of Bengal and does not experience the full impact of cyclones, relative to other parts of the inland Cauvery delta. Hence rainfall is very less. Average rainfall in the region varies between 350 to 900 meters annually. The water which gets collected in the tank is mainly due to North East Monsoon. During summer the rainfall is usually less. Drought in Ramanathapuram district is not uncommon due to inadequate rainfall. The sanctuary and surrounding areas were fully affected by droughts during 1972-1976. During these times, agricultural crop plants and production yields were heavily affected. Drought also creates the problem of unemployment of villagers residing in and around the sanctuary. The area already faces a threat from invading species like Prosopis julifera and Ipomea

4.4.2 - Geomorphic setting

a) Minimum elevation above sea level (in metres): 30

a) Maximum elevation above sea level (in metres): 70

- 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.

Lower part of Vaigai – Gundar River Basin. Therkaar and Goundanadhi in the upper reaches; Girudhamal and Kanal Odai in the middle reaches; Paraiyar and Palar in tail reaches.

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)

Owing to the prevailing drought conditions, the sanctuary's soil moisture levels are considerably low, jeopardizing symbiotic processes in the soil and its nutrient carrying capacity, thereby retarding plant growth. Majority of the area is covered by black soil (black clayey soil type). They are black or black to brownish in colour and are found in parts of Ramanathapuram, Paramakudi, Kamudi, Tiruvadanai and Mudukulathur blocks. Measures may be adopted to maintain the soil moisture conditions by certain traditional techniques – Like: The Ditch method and Pot method.

4.4.4 - Water regime

Water permanence

Presence?	
Usually seasonal, ephemeral or intermittent water present	No change

Source of water that maintains character of the site

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

Water destination

Presence?	
To downstream catchment	No change

Stability of water regime

Presence?	
Water levels largely stable	No change

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

KBS is part of the Gundar River Basin of Southern Tamilnadu. The basin is spread over an area of 5660 sq. km, flowing through parts of five districts, 12 taluks, 22 blocks and 760 revenue villages. River Gundar originates from Saptur reserve forest in Varushanadu hills (the eastern slope of the Western Ghats) and runs over a length of 150 km before it joins the sea. The general slope is Northwest to Southeast. The slope is less than one percent in most parts of the basin providing scope for forming channels wherever needed to feed the tanks constructed, and this is one of the major contributing factors for the well-entrenched tank-based irrigation in the district of Ramanathapuram. The basin receives annual average rainfall in the range of 550 to 900 mm and variations of rainfall are high in the tail reaches of the river, within which KBS is located.

The most vital component is that, in the upper reaches, Gundar is about 10 meters wide, but as it flows towards the Bay of Bengal, it widens to 100 meters as a meander. It is this meander, that local communities have traditionally capitalized, to create a series of inter connected ox bow lakes. The two canals are at the tail end reaches of Gundar basin, and were excavated during pre-colonial period by the Sethupathis (Marava Kings) of Ramanathapuram. Amongst the two, Raghunatha Cauvery Canal is of relevance to KBS. The canal was constructed by creating a regulator at Kamudi, across Gundar and excavating a dedicated channel to drain into a wetland on the North-East, closer to the coast, by Raghunatha Sethupathi (the Marava King), after whom it is named. It is oriented towards the left of the river, and passes through Mudukulathur, Kumarkurichi and Karumal villages of Mudukulathur taluk, finally draining into Kalari Tank. Around 17928 acres of ayacut were benefited from this canal, through an interconnected system of 71 tanks.

(ECD) Connectivity of surface waters and of groundwater	Characterized by phreatic aquifers; groundwater-colourless, odourless, slightly alkaline; aquifers at depths ranging between 116-407 & 205-777 m below ground level; thickness ranging between 68-538 m; district-underlain by porous & fissured formations

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
- [x] Sediment regime is highly variable, either seasonally or inter-annually
- [ ] Sediment regime unknown

Please provide further information on sediment (optional):

Water holding capacity of the tank is reduced every year due to sedimentation. Measures may be taken up annually to desilt the tank and preserve the original water holding capacity. River alluvium occur as a major patch in Ramanathapuram district.

Erosion - Soil erosion in the sanctuary occurs mostly on the bunds. Both inner and outer sides of the bunds are prone to erosion from winds and rains. Humans and animals also cause erosion, when they walk on the bund. Presently, the bund is under the control of PWD and they undertake much of the repair and maintenance work. To offset erosion, bunds may be planted with Syzygium cumini, Ficus spp., Mangifera indica, Thespeia populnea and Azadirachta indica.

(ECD) Water turbidity and colour	Colourless
(ECD) Light - reaching wetland	13.7 – 17.1 meters
(ECD) Water temperature	25oC

4.4.6 - Water pH

- [ ] Acid (pH<5.5)
- [ ] Circumneutral (pH: 5.5-7.4)
- [ ] Alkaline (pH>7.4)
- [x] Unknown

4.4.7 - Water salinity

- [x] 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):

Kanjirankulam wetland is basically a freshwater system, but due to seasonal variations in salinity (it is slightly brackish), fluctuations are especially more pronounced during the dry season.

4.4.8 - Dissolved or suspended nutrients in water

- [ ] Eutrophic
- [x] Mesotrophic
- [ ] Oligotrophic
- [ ] Dystrophic
- [ ] Unknown

(ECD) Dissolved organic carbon	620.5 (mg/L)
(ECD) Water conductivity	409µS/ cm

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 surrounding area is covered with Prosopis thickets and croplands. No satellite wetlands are present in the buffer zone, except Mookaiyur wetland and Valinokkam saltpans, which are accessible and ideal foraging sites for birds nesting in the three sanctuaries of Ramanathapuram district. Pelicans, painted storks, grey herons and egrets can travel to the nearest natural coastal wetlands, saltpans within 15 km radius. The birds of Kanjirankulam can travel to neighboring inland wetlands like Sakkarakotakanmai, Periakanmai and Uthragoshamanga wetlands for foraging.

4.5 - Ecosystem services

4.5.1 - Ecosystem services/benefits

Provisioning Services

Ecosystem service	Examples	Importance/Extent/Significance
Fresh water	Drinking water for humans and/or livestock	High
Fresh water	Water for irrigated agriculture	High
Wetland non-food products	Fuel wood/fibre	High

Regulating Services

Ecosystem service	Examples	Importance/Extent/Significance
Maintenance of hydrological regimes	Groundwater recharge and discharge	High
Maintenance of hydrological regimes	Storage and delivery of water as part of water supply systems for agriculture and industry	High
Erosion protection	Soil, sediment and nutrient retention	High
Climate regulation	Local climate regulation/buffering of change	High
Climate regulation	Regulation of greenhouse gases, temperature, precipitation and other climactic processes	High

Cultural Services

Ecosystem service	Examples	Importance/Extent/Significance
Recreation and tourism	Picnics, outings, touring	High
Recreation and tourism	Nature observation and nature-based tourism	Medium
Scientific and educational	Educational activities and opportunities	Medium
Scientific and educational	Major scientific study site	High

Supporting Services

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

Other ecosystem service(s) not included above:

The above sections have provided and clearly indicated the ecosystem services provided by wetlands, from species (energy and trophic) interactions, interrelationships, hydrological regimes, diversity, substrate maintenance in terms of soil profiling, aesthetic, educational, scientific and disaster mitigation).

Within the site: 1300

Outside the site: 10000s;

Have studies or assessments been made of the economic valuation of ecosystem services provided by this Ramsar Site? Yes ○ No ○ Unknown ◉

4.5.2 - Social and cultural values

i) the site provides a model of wetland wise use, demonstrating the application of traditional knowledge and methods of management and use that maintain the ecological character of the wetland ☑

Description if applicable

Traditionally, people living in villages around Kanjirankulam wetland (bird sanctuary) have realized the significance of water birds, especially the bird droppings (guano), which they found to be more effective as a natural fertilizer, for their agricultural yield, over chemical pesticides. Hence, they were known to aggressively protect the birds and can be used in wise use of wetland, through participatory methods and educational awareness

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

Description if applicable

Description if applicable (This field is limited to 2500 characters) Inputs from local communities state that Kanjirankulam BS has folklore history from 1600 AD, with a well-established water management system. Whilst the date cannot be authenticated, village records suggest a rotational system of water management; with designated ayacutdars overseeing the records..

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

Description if applicable

Kanjirankulam villagers have understood the importance of their wetland, functional significance of the birds which visit (migrants) or are residents in the sanctuary, from a very long time. A noteworthy aspect is, the bird dropping enriched water, which they have used effectively in agriculture. Hence, it is this interaction and long perseverance of the local people that has managed to sustain the wetland. This aspect must be used efficiently for the wise use of this wetland and preserving its ecological status.

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

Traditionally, the villagers have protected birds as they have realized the importance of bird droppings in agriculture and thus their economy. Sentiments associated with bird protection have been observed across all class and caste barriers in the village. Within the immediate periphery of the sanctuary, there is an old Amman temple used for worshipping by the villagers. A small temple dedicated to human being deity, was also observed in the vicinity of the sanctuary.

4.6 - Ecological processes

<no data available>

5 - How is the Site managed? (Conservation and management)

5.1 - Land tenure and responsibilities (Managers)

5.1.1 - Land tenure/ownership

Public ownership

Category	Within the Ramsar Site	In the surrounding area
Provincial/region/state government	☑	☐
Local authority, municipality, (sub)district, etc.	☑	☑

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

Although the tanks have been declared as a Bird Sanctuary, control of water management still remains with PWD (Public Works Department).

5.1.2 - Management authority

Please list the local office / offices of any agency or organization responsible for managing the site: Currently, the bund is under the control of PWD (Public Works Department) and they manage it in terms of repair and maintenance works. The administration of the sanctuary is under the control of Forest department.

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

Postal address: Ramanathapuram Division, Forest Department Campus, Mandapam Road, Opp. ITI, Ramanathapuram-623 503

E-mail address: dforamnad@gmail.com

5.2 - Ecological character threats and responses (Management)

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

Human settlements (non agricultural)

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Unspecified development	High impact		☐	☑

Water regulation

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

Transportation and service corridors

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Unspecified	unknown impact		☐	☑

Biological resource use

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Logging and wood harvesting	Medium impact		☑	☑
Gathering terrestrial plants	Medium impact		☑	☑

Human intrusions and disturbance

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Unspecified/others	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	High impact		☑	☑

Pollution

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Excess heat, sound, light	Medium impact		☑	☑
Unspecified	Medium impact		☑	☑

Climate change and severe weather

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Droughts	High impact		☑	☑
Temperature extremes	High impact		☑	☑
Storms and flooding	High impact		☑	☑

5.2.2 - Legal conservation status

National legal designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
Bird Sanctuary	Kanjirankulam Bird Sanctuary	Bird Sanctuary https://www.forests.tn.gov.in/pages/view/chitrangudi_bs	whole

Non-statutory designations

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

Habitat

Measures	Status
Catchment management initiatives/controls	Partially implemented
Hydrology management/restoration	Partially implemented
Habitat manipulation/enhancement	Partially implemented

Species

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

Human Activities

Measures	Status
Livestock management/exclusion (excluding fisheries)	Partially implemented
Communication, education, and participation and awareness activities	Partially implemented

Other:

In India and the State of Tamil Nadu there are no protected areas managed under any of the existing IUCN categories. All protected areas in the Country/State are managed by the Wildlife (Protection) Act which provides for National Parks, Wildlife Sanctuaries, Conservation Reserves and Community Reserves.

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 need identified

5.2.7 - Monitoring implemented or proposed

Monitoring	Status
Water regime monitoring	Proposed
Animal community	Proposed

Few proposed/ undertaken monitoring activities: (1) Habitat monitoring: study of floral and landscape diversity, to be undertaken regularly; advisable to have standard optimized protocols for monitoring the habitat and associated key fauna. Wherever possible/required, support from various institutions/ organizations to be utilized for the activities. Effective appropriate techniques, logistics & corresponding methodology to be adopted, ranging from actual field work to record keeping. Monitoring these habitats for long-term protection &conservation of flora &fauna in the Sanctuary becomes imperative. Permanent plots may be laid out in the bund areas/islands, representing terrestrial habitat in the Sanctuary; are to be monitored regularly for vegetation & help in detecting changes; will also assist in understanding succession. Satellite imageries to be used, wherever applicable, while interpreting habitat distribution & degradation changes like siltation, invasive constructions etc.,; would form a protocol for spatial analysis. (2) Biodiversity Monitoring: Forest department along with few dedicated organizations working in the area, conduct water bird count between Dec & Jan each year. Migratory water birds to be monitored every year to understand the population dynamics from movement, foraging, site selection, territoriality, breeding/nesting, reproduction to survival rates. Monitoring breeding of resident species& impact of wetland degradation on birds to be carried out (3) Monitoring bird population &health: Determination of bird population by line transects methods & statistical analysis. Study on biology & behavior of birds will be carried out with the help of scientists/ researchers from BNHS (Bombay Natural History Society) & other research organizations with expertise on avianfauna. Census to be carried out twice a year (summer + rainy season) (4) Vegetation Monitoring: Growth &abundance of trees, shrubs, grasses, palatable for herbivores which provide food & shelter to be monitored. Estimation of ground cover %age (every year) after rainy season, tree cover & rate of regeneration. Photographic recording of all events/processes (wherever possible) will provide a visual understanding of changes over time. (5) Environmental Monitoring: Testing Water & Soil Quality parameters to be carried out in standard certified water quality testing labs. Bathymetric profiling of siltation in the region-recommended every 2 yrs. (6) Wildlife Heath Monitoring: Need to monitor health of resident fauna & migratory birds, especially for a bird sanctuary is essential. Any neglected disease outbreak can have a devastating effect on the ecosystem also affecting people who are dependent. Routine blood samples to be tested periodically. Systematic disease surveillance to be conducted in the sanctuary, in consultation with the veterinary department. Based on observations a “Disease Management” protocol can be standardized and formulated as a mitigating measure.

6 - Additional material

6.1 - Additional reports and documents

6.1.1 - Bibliographical references

1. District Groundwater Brochure, Ramanathapuram District, Tamilnadu (2009) – Technical Report (Chennai Central Ground Water Board: Chennai)
2. District wise climate change information for the state of Tamilnadu temperature projections for Ramanathapuram
3. Jagdish Krishnaswamy, Ananya Baruah et.al (2008) Trends and Patterns in Hydrology and Water Quality in Coastal Ecosystems and Upstream Catchments in Tamilnadu, India 4. Notes on Ramanathapuram District - Chapter 4.1.9 Ground Water Resources Ramanathapuram District
5. Subramanya. S(2006) Heronries of Tamilnadu; Indian Birds Vol. 1 No. 6
6. Taher.H (2007) The Spot billed Pelican Pelecanus philippensis of Uppalapadu (Guntur District, Andhra Pradesh, India)
7. Wetland Action Plan for Chitrangudi Bird Sanctuary and Kanjirankulam Bird Sanctuary (2013-2019) prepared by CARE Earth Trust and Tamilnadu Biodiversity Greening Project 8. www.CITES.org
9. BirdLife International (2022) Important Bird Areas factsheet: Chitragudi and Kanjirankulam Bird Sanctuary. Downloaded from http://www.birdlife.org on 04/04/2022.
10. www.fishbase.com
11. www.forests.tn.gov.in
12. www.gbif.org
13. www.indiabiodiversity.org
14. www.iucnredlist.org
15. www.keybiodiversityareas.org
16. www.tropicos.org
17. https://www.thehindu.com/news/national/andhra-pradesh/atapaka-largest-home-of-spotbilled-pelican/art icle8256101.ece

6.1.2 - Additional reports and documents

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

ii. a detailed Ecological Character Description (ECD) (in a national format)
<1 file(s) uploaded>

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:

Black winged stilt (*Tamil Nadu State Wetland Authority, 19-11-2021*)

Black Ibis (*Tamil Nadu State Wetland Authority, 19-11-2021*)

Spot-billed pelican nesting site (*Tamil Nadu State Wetland Authority, 19-11-2021*)

6.1.4 - Designation letter and related data

Designation letter
<1 file(s) uploaded>

Date of Designation: 2022-04-08