

### 3.59. KOONTHANKULAM BIRD SANCTUARY

- ❖ **State / Union Territory:** Tamil Nadu
- ❖ **Name and address of person (s) compiling this information:**
  - ▶ Dr. S. KANMANI, Professor and Director, Centre for Environmental Studies, Anna University, Chennai – 25.
  - ▶ Dr. SARANYA KUPPUSAMY, Visiting Professor, Centre for Environmental Studies, Anna University, Chennai – 25.
  - ▶ Dr. A. MERLINE SHEELA, Associate Professor, Centre for Environmental Studies, Anna University, Chennai – 25.

#### **Section 1: Identification, Location and Jurisdiction**

- 1.1 *Name of the Wetland:* Koonthankulam Bird Sanctuary
- 1.2 *Name of the Village (s), Tehsil (s), Municipal area (s):* Kadankulam-Thirumangalam, Nanguneri, Koonthankulam, Kadankulam, Silayam, Arumuganeri
- 1.3 *Name of the District (s) in which Wetlands complex located:* Tirunelveli
- 1.4 *Geographical coordinates:*
  - ▶ Latitude: 8°29'45.8874" N
  - ▶ Longitude: 77°45'19.2954" E
- 1.5 *Name of the Department/ Agency which has jurisdiction over Wetland/ Wetland complex:* Forest Department

#### **Section 2: Site Characteristics**

- 2.1 *Area of Wetland:* 61.04 ha
- 2.2 *Wetland type:*

Category	Subcategory
<ul style="list-style-type: none"> <li>✓ Natural (Inland)</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Permanent lakes</li> <li>✓ Seasonal/ intermittent lakes</li> <li><input type="checkbox"/> Permanent streams/ creeks</li> <li><input type="checkbox"/> Seasonal/ intermittent streams/ creeks</li> <li><input type="checkbox"/> Oxbow</li> <li><input type="checkbox"/> River floodplain</li> <li><input type="checkbox"/> Permanent freshwater marshes</li> <li><input type="checkbox"/> Seasonal/ intermittent freshwater marshes</li> <li><input type="checkbox"/> Shrub-dominated Wetlands</li> <li><input type="checkbox"/> Tree-dominated Wetlands</li> <li><input type="checkbox"/> Geothermal Wetlands</li> <li><input type="checkbox"/> Karst and other subterranean hydrological</li> </ul>

	systems
<input type="checkbox"/> Natural (Coastal)	<input type="checkbox"/> Coastal lagoon <input type="checkbox"/> Estuary <input type="checkbox"/> Intertidal mud, sand or salt flats <input type="checkbox"/> Mangroves <input type="checkbox"/> Coral reefs
<input type="checkbox"/> Human-made	<input type="checkbox"/> Aquaculture pond <input type="checkbox"/> Tank <input type="checkbox"/> Saltpan <input type="checkbox"/> Dam/ Reservoir

2.3 *Depth (m):* Average - 1.5; Maximum - 2.5

2.4 *Elevation (m above mean sea level):* 63

2.5 *Water regimes*

a) Main source of water

- Rainfall inflow from river
- Groundwater
- Catchment runoff
- Direct/ indirect inflow from the river
- Others, please specify: Marimutharu dam is one of the sources of water
- Name of River/ Canal System

b) Water performance

- Mostly permanent
- Mostly intermittent

c) Destination of water from Wetland

- Feeds groundwater river to sea
- To downstream catchment

d) Water pH

- Acid (< 5.5)
- Circumneutral (5.5-7.4)
- Alkaline (> 7.4)

e) Water salinity

- Fresh (< 0.5 g/l)
- Brackish (0.5-30 g/l)
- Euhaline (30-40 g/l)
- Hypersaline (> 40 g/l)
- Not known

- f) Nutrients in water
  - Eutrophic
  - Mesotrophic
  - Oligotrophic
  - Not known

2.6 *Climatic setting*

- a) Annual rainfall/ Snowfall (mm): 54.5
- b) Temperature (°C) Minimum 28.75 ; Maximum 36.3
- c) Humidity (%) Minimum 69.4 ; Maximum 77.3

2.7 *Area of zone of influence (in ha): 3056.25 ha (with an irregular radius of 3.14 km)*

2.8 *Major land use within zone of influence*

<b>Land Use</b>	<b>Percentage</b>
Forest	: 0%
Vegetation (Plantation)	: 0%
Agriculture	: 76%
Settlements (Rural)	: 5%
Settlements (Urban)	: 0%
Industrial	: 0%
Waterbody	: 13%
Waste Land	: 6%

2.9 *Map of Wetland complex and zone of influence: Enclosed as Annexure 3.59 (Fig. 3.59.1-3.59.2)*

**Section 3: Biodiversity**

- 3.1 *Notable plant species present in Wetland:* The Wetland is home to a diverse range of plant species, totaling 52 species (refer to Table 3.59.1 in Annexure 3.59).
- 3.2 *Notable animal species present in Wetland:* The Wetland supports a variety of animal species, with a total of 173 recorded species. This includes 3 mammal species, 7 reptile species, 8 amphibian species, 142bird species, and 13 species of butterflies (refer to Table 3.59.2-3.59.3 in Annexure 3.59).
- 3.3 *Species of conservation significance:* Highlighted in Table 3.59.1-3.59.3
- 3.4 *Major plant invasive alien species:* The Wetland supports 6 plant invasive species (refer to Table 3.59.4 in Annexure 3.59).
- 3.5 *Major animal invasive alien species:* The Wetland supports 1 animal invasive species (refer to Table 3.59.5 in Annexure 3.59).

#### Section 4: Ecosystem Services

Importance	Relevance	Details
Source of drinking water for people living and around	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Source of water for agriculture	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	When it reaches its Full Supply level (FSL), the water may withdrawn for agriculture
Fisheries	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Cultivation of aquatic food plants	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
For buffalo wallowing and use of domesticated animals	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Medicinal plants	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Few Medicinal plants around the Wetland. Listed in Table 3.59.6 (Annexure 3.59)
Is a recreational site	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Receives a good population of nature enthusiasts & Bird watching
Buffering communities from extreme events as floods and storms	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Groundwater recharge	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Major source of ground water recharge
Water purification	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Acts as a sink for sediments	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Substantial water flow from the surrounding watershed
Has significant cultural and religious values	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	There is more temple around the embankment of the Wetland
Is a site for recreation and tourism	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Supports noteworthy plant species	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Support noteworthy animal species	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

Site of high congregation of migratory water birds	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Provides a suitable site for the high congregation of migratory water birds.
Supports life cycle of fish or amphibians	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Almost 8 variety of amphibians were surviving
Mining	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Any others	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

### Section 5: Pre-Existing Rights and Privileges

Nature of right and privilege	Relevant for the site	Does this negatively impact the Wetland's ecological health?	Brief description
Community Fishing (without any lease or permission from government department)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not assessed	
Fishing under lease from government department	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not assessed	
Harvest of plants (without any lease or permission from government department)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not assessed	
Harvest of plants under lease from government department	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not assessed	
Agriculture or horticulture within Wetland	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not assessed	
Grazing	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not assessed	Grazing activity is done by cattle & Observed more in numbers
Religious practices	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not assessed	There is a temple around the embankment of the Wetland

Withdrawal of water for domestic use	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not assessed	
Withdrawal of water for agriculture or fisheries	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not assessed	
Bathing or wallowing of domestic animals	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not assessed	
Plying of boats	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not assessed	
Any other	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not assessed	

### Section 6: Present and Potential Threats

Threat	Degree	Present/ Potential	Additional info.
Changes in water inflow and outflow	<input type="checkbox"/> High <input type="checkbox"/> Medium <input type="checkbox"/> Low	<input type="checkbox"/> Present <input type="checkbox"/> Potential	
Pollution	<input type="checkbox"/> High <input type="checkbox"/> Medium <input type="checkbox"/> Low	<input type="checkbox"/> Present <input type="checkbox"/> Potential	
Unsustainable harvest of biological resources	<input type="checkbox"/> High <input type="checkbox"/> Medium <input type="checkbox"/> Low	<input type="checkbox"/> Present <input type="checkbox"/> Potential	
Mining	<input type="checkbox"/> High <input type="checkbox"/> Medium <input type="checkbox"/> Low	<input type="checkbox"/> Present <input type="checkbox"/> Potential	
Siltation	<input type="checkbox"/> High <input type="checkbox"/> Medium <input checked="" type="checkbox"/> Low	<input checked="" type="checkbox"/> Present <input type="checkbox"/> Potential	Substantial water flow from the surrounding watershed
Encroachment	<input type="checkbox"/> High <input type="checkbox"/> Medium	<input type="checkbox"/> Present <input type="checkbox"/> Potential	

	<input type="checkbox"/> Low		
Spread of invasive species	<input type="checkbox"/> High <input type="checkbox"/> Medium <input checked="" type="checkbox"/> Low	<input checked="" type="checkbox"/> Present <input type="checkbox"/> Potential	Listed in Table 59.4-59.5 in Annexure 59
Any other, please list	<input type="checkbox"/> High <input type="checkbox"/> Medium <input type="checkbox"/> Low	<input type="checkbox"/> Present <input type="checkbox"/> Potential	

**Section 7: Activities Proposed to Be Prohibited (other than those listed in Rule 4 (2) of Wetlands Rules and Regulated**

Activity	Whether prohibited or regulated	Regulation within Wetlands zone of influence	If regulated indicates the level of regulation	Name of department/ agency responsible for regulation/ prohibition	Additional info.
Withdrawal of water / impoundment/diversion or any other hydrological intervention		<input type="checkbox"/> Wetland/ Wetland complex boundary <input type="checkbox"/> Zone of influence			
Harvesting of resources (living / non-living)		<input type="checkbox"/> Wetland/ Wetland complex boundary <input type="checkbox"/> Zone of influence			
Grazing	Regulated	<input checked="" type="checkbox"/> Wetland/ Wetland complex boundary <input type="checkbox"/> Zone of influence	Upto the boundary is well & Observed more in numbers		
Discharge of treated sewage/ effluent / wastewater		<input type="checkbox"/> Wetland/ Wetland complex boundary <input type="checkbox"/> Zone of influence			

Construction of boat jetties, and facilities for temporary use, as pantoon bridges		<input type="checkbox"/> Wetland/ Wetland complex boundary  <input type="checkbox"/> Zone of influence			
Aquaculture, agriculture and horticulture activities within the Wetland boundaries.		<input type="checkbox"/> Wetland/ Wetland complex boundary  <input type="checkbox"/> Zone of influence			
Any other, please list		<input type="checkbox"/> Wetland/ Wetland complex boundary  <input type="checkbox"/> Zone of influence			

### Section 8: Activities Proposed to be permitted

Activity	Relevance	Within Wetlands or zone of influence	Additional info.
Withdrawal of water for agriculture		<input type="checkbox"/> Wetland/ Wetlands complex boundary <input checked="" type="checkbox"/> Zone of influence	May permitted, since the surrounding area is rich in agriculture

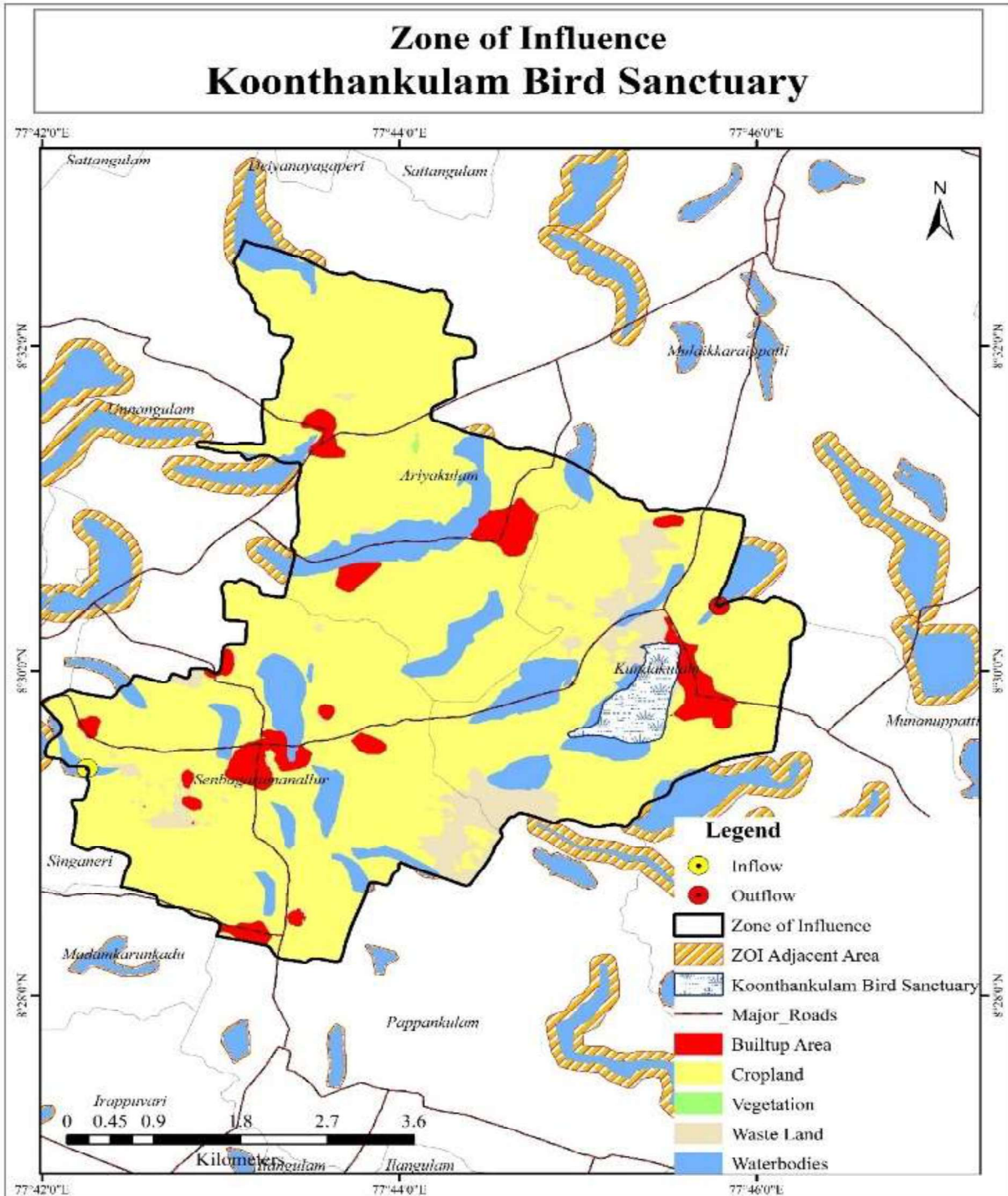
### Section 9: Listing of Available Scientific Resources Used

1. Abhisheka, K., David, J. P., Prashanth, M. B., Seshadri, K. S., & Ganesh, T. (2013). First detailed survey of waterbirds in Tirunelveli and Tuticorin districts, Tamil Nadu, India. *Journal of Threatened Taxa*, 5(12), 4641–4652. <https://doi.org/10.11609/JoTT.o3125.4641-52>
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15. Nair, N. C., & Henry, A. N. (1983). *Flora of Tamil Nadu, India. Series I* (Vol. 1). Botanical Survey of India, Southern Circle.
16. Rajakumari, M., Paramanatha Swami Doss, D., Balamurugan, S., Nivetha, S., & Suthakar Isaac, S. (2021). Bird community of Koonthankulam bird sanctuary, Tamil Nadu, India. *International Journal of Zoology and Applied Biosciences*, 6(3), 168-177.

ANNEXURE 3.59

Fig. 3.59.1 Zone of Influence of Koonthankulam Bird Sanctuary

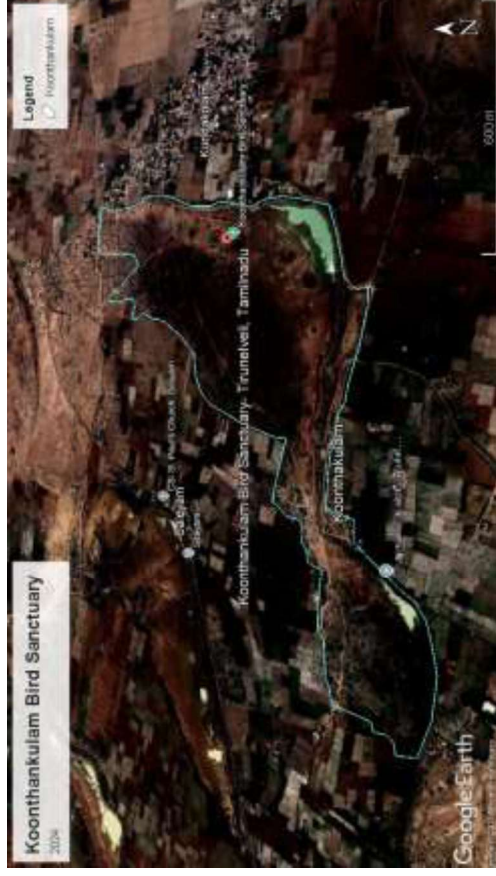


**Fig 3.59.2. Map (2010 vs. 2024) and Land Use/ Land Cover of Koonthankulam Bird Sanctuary**

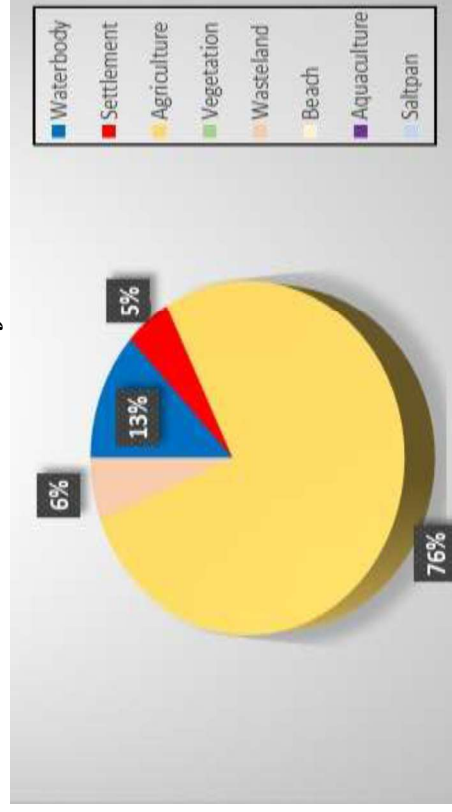
*Map of the Wetland in 2010*



*Map of the Wetland in 2024*



*Land Use/ Land Cover of the Wetland*



**Table 3.59.1. IUCN Status of Floral Species in Koonthankulam Bird Sanctuary**

S. No.	Species	Family	Tamil Name	Habit	IUCN
1.	<i>Abrus precatorius</i>	Fabaceae	Kundumani	Climber	NE
2.	<i>Abutilon indicum</i>	Malvaceae	Thuthi	Shrub	LC
3.	<i>Acacia nilotica</i>	Fabaceae	Karuvel	Tree	LC
4.	<i>Acalypha indica</i>	Euphorbiaceae	Kuppaimeni	Herb	NE
5.	<i>Acanthospermum hispidum</i>	Compositae		Herb	NE
6.	<i>Achyranthes aspera</i>	Amaranthaceae	Nayurivi	Herb	NE
7.	<i>Aerva lanata</i>	Amaranthaceae	Peelai	Herb	NE
8.	<i>Albizia lebbek</i>	Mimosaceae	Vaagai	Tree	LC
9.	<i>Albizia saman</i>	Fabaceae	Rain tree	Tree	LC
10.	<i>Alternanthera pungens</i>	Amaranthaceae		Herb	NE
11.	<i>Alternanthera sessilis</i>	Amaranthaceae	Ponnanganni	Herb	NE
12.	<i>Boerhavia diffusa</i>	Nyctaginaceae	Mookarattai	Herb	NE
13.	<i>Borassus flabellifer</i>	Arecaceae	Panai	Tree	LC
14.	<i>Brachiaria ramosa</i>	Poaceae		Grass	NE
15.	<i>Calotropis gigantea</i>	Asclepiadaceae	Erukku	Shrub	NE
16.	<i>Cardiospermum halicacabum</i>	Sapindaceae	Mudakotthan	Herb	NE
17.	<i>Chloris barbata</i>	Poaceae	Kodaipul	Grass	NE
18.	<i>Cleome viscosa</i>	Capparidaceae	Nai vaelai	Herb	NE
19.	<i>Commelina benghalensis</i>	Commelinaceae	Kanaangozhai	Herb	LC
20.	<i>Corchorus capsularis</i>	Tiliaceae	Sanal	Herb	NE
21.	<i>Cynodon dactylon</i>	Poaceae	Aruhampul	Grass	NE
22.	<i>Datura metal</i>	Solanaceae	Karu Oomatthai	Herb	NE
23.	<i>Digitaria abludens</i>	Poaceae		Grass	NE
24.	<i>Digitaria ciliaris</i>	Poaceae		Grass	NE
25.	<i>Eragrostis viscosa</i>	Poaceae	-	Grass	LC
26.	<i>Hyptis suaveolens</i>	Labiatae		Shrub	NE
27.	<i>Ipomoea carnea</i>	Convolvulaceae		Shrub	NE
28.	<i>Ischaemum indicum</i>	Poaceae	-	Grass	LC

29.	<i>Jatropha gossypifolia</i>	Euphorbiaceae	Kaatu-amanakku	Shrub	NE
30.	<i>Justicia procumbens</i>	Acanthaceae	Ottupillu	Herb	NE
31.	<i>Justicia prostrata</i>	Acanthaceae		Herb	NE
32.	<i>Lantana camara</i>	Verbenaceae	Unnichedi	Shrub	LC
33.	<i>Leucas aspera</i>	Labiatae	Thumbai	Herb	LC
34.	<i>Mollugo cerviana</i>	Molluginaceae	Parpaadagam	Herb	NE
35.	<i>Morinda tinctoria</i>	Rubiaceae	Manjanathi	Tree	NE
36.	<i>Mukia leiosperma</i>	Cucurbitaceae		Climber	NE
37.	<i>Passiflora foetida</i>	Passifloraceae	Poonaipidukku	Climber	NE
38.	<i>Phyllanthus reticulatus</i>	Euphorbiaceae	Inki pazham	Shrub	LC
39.	<i>Senna occidentalis</i>	Caesalpiniaceae	Thagarai	Shrub	NE
40.	<i>Senna tora</i>	Caesalpiniaceae	Oosi thagarai	Herb	NE
41.	<i>Solanum trilobatum</i>	Solanaceae	Thoodhuvalai	Herb	NE
42.	<i>Spermacoce hispida</i>	Rubiaceae	Nathaichoori	Herb	NE
43.	<i>Sphaeranthus amaranthoides</i>	Compositae	Siva karandhai	Herb	LC
44.	<i>Tephrosia purpurea</i>	Fabaceae	Kozhinji	Herb	NE
45.	<i>Thevetia peruviana</i>	Apocynaceae	Ponnarali	Shrub	NE
46.	<i>Tinospora cordifolia</i>	Menispermaceae	Seendhil	Climber	NE
47.	<i>Trachys muricata</i>	Poaceae	-	Grass	LC
48.	<i>Trianthema portulacastrum</i>	Aizoaceae		Herb	NE
49.	<i>Tridax procumbens</i>	Compositae	Vettukkaaya-thazhai	Herb	LC
50.	<i>Tylophora indica</i>	Asclepiadaceae	Naippalai	Climber	NE
51.	<i>Typha angustifolia</i>	Typhaceae	Sambu	Herb	LC
52.	<i>Xanthium indicum</i>	Compositae	Marul oomatham	Herb	LC

**Table 3.59.2. IUCN Status of Selected Fauna Species in Koonthankulam Bird Sanctuary**

S. No.	Scientific Name of the Species	Family	Common Name	IUCN	Present study
<i>A. Mammal</i>					
1.	<i>Funambulus pennantii</i>	Sciuridae	Five striped Palm squirrel	LC	*
2.	<i>Urva edwardsii</i>	Herpestidae	Indian grey mongoose	LC	*
3.	<i>Rattus argentiventer</i>	Muridae	Field Rat	LC	*
<i>B. Reptile</i>					
1.	<i>Calotes versicolor</i>	Agamidae	Oriental Garden lizard	LC	*
2.	<i>Ptyas mucosa</i>	Colubridae	Indian Rat Snake	LC	*
3.	<i>Psammophilus dorsalis</i>	Agamidae	Peninsular Rock Agama	LC	
4.	<i>Xenochrophis piscator</i>	Colubridae	Checkered keelback	LC	
5.	<i>Ophisops leschenaultii</i>	Lacertidae	Leschenault's snake-eye	LC	
6.	<i>Sitana ponticeriana</i>	Agamidae	Fan-throated lizard	LC	*
7.	<i>Bungarus caeruleus</i>	Elapidae	Common krait	LC	
<i>C. Amphibian</i>					
1.	<i>Bufo scaber</i>	Bufoidea	Fergusons toad	LC	*
2.	<i>Duttaphrynus melanostictus</i>	Bufoidea	Common indian toad	LC	*
3.	<i>Kaloula taprobanica</i>	Microhylidae	Painted frog	LC	*
4.	<i>Uperodon systoma</i>	Microhylidae	Marbled ballon frog	LC	*
5.	<i>Polypedates maculatus</i>	Rhacophoridae	Common tree frog	LC	*
6.	<i>Euphlyctis cyanophlyctis</i>	Dicroglossidae	Indian skipper frog	LC	*
7.	<i>Fejervarya caperata</i>	Dicroglossidae	Cricket frog	LC	*

8.	<i>Fejervarya limnocharis</i>	Dicroglossidae	Paddy field frog	LC	*
<i>D. Butterfly</i>					
1.	Common crow	Nymphalidae	Nymphalidae	LC	*
2.	Common Emigrant	Pieridae	Pieridae	NE	*
3.	Common evening brown	Nymphalidae	Nymphalidae	LC	*
4.	Common grass yellow	Pieridae	Pieridae	LC	*
5.	Common lime	Papilionidae	Papilionidae	NE	*
6.	Common Mormon	Papilionidae	Papilionidae	NE	*
7.	Lemon pansy	Nymphalidae	Nymphalidae	NE	*
8.	Mottled Emigrant	Pieridae	Pieridae	NE	*
9.	Pale Grass Blue	Lycaenidae	Lycaenidae	NE	*
10.	Peacock pansy	Nymphalidae	Nymphalidae	LC	*
11.	Plain tiger	Nymphalidae			
12.	Blue Tiger	Nymphalidae	Nymphalidae	LC	*
13.	Gram Blue	Lycaenidae	Nymphalidae	LC	*

LC – Least Concern; \* - Yes

**Table 3.59.3. IUCN Status of Bird Species in Koonthankulam Bird Sanctuary**

S. No.	Scientific Name of the Species	Common name	Habitat	IUCN	PS
1.	<i>Accipiter badius</i>	Shikra	T	LC	*
2.	<i>Acridotheres tristis</i>	Common Myna	T	LC	*
3.	<i>Acrocephalus dumetorum</i>	Blyth's Reed Warbler	T	LC	*
4.	<i>Actitis hypoleucos</i>	Common Sandpiper	A	LC	*
5.	<i>Aegithina tiphia</i>	Common Iora	T	LC	*
6.	<i>Alauda gulgula</i>	Oriental Skylark	T	LC	
7.	<i>Alcedo atthis</i>	Common Kingfisher	T	LC	*
8.	<i>Amaurornis phoenicurus</i>	White-breasted Waterhen	A	LC	
9.	<i>Anas acuta</i>	Northern Pintail	A	LC	
10.	<i>Anas clypeata</i>	Northern Shoveller	A	LC	
11.	<i>Anas crecca</i>	Common Teal	A	LC	*

12.	<i>Anas indicus</i>	Bar-headed Goose	A	LC	
13.	<i>Anas Penelope</i>	EurasianWigeon	A	LC	
14.	<i>Anas poecilorhyncha</i>	Spot-billed Duck	A	LC	
15.	<i>Anas querquedula</i>	Garganey	A	LC	
16.	<i>Anastomus oscitans</i>	Asian Openbill	A	LC	*
17.	<i>Anhinga melanogaster</i>	Darter	A	LC	
18.	<i>Anthus richardi</i>	Richard's Pipit	D	LC	
19.	<i>Anthus rufulus</i>	Paddy-field Pipit	D	LC	*
20.	<i>Apus affinis</i>	House Swift	T	LC	
21.	<i>Ardea cinerea</i>	Grey Heron	A	LC	*
22.	<i>Ardea purpurea</i>	Purple Heron	A	LC	
23.	<i>Ardeola grayii</i>	Indian Pond Heron	A	LC	*
24.	<i>Artamus fuscus</i>	Ashy Woodswallow	T	LC	
25.	<i>Athene brama</i>	Spotted Owlet	T	LC	
26.	<i>Bubulcus ibis</i>	Cattle Egret	D	LC	*
27.	<i>Burhinus oedicephalus</i>	Eurasian Thick-knee	A	LC	
28.	<i>Burhinus recurvirostris</i>	Great Thick-knee	A	LC	
29.	<i>Burhinus oedicephalus</i>	Stone Curlew	A	LC	
30.	<i>Butas turteesa</i>	White-eyed Buzzard	T	LC	
31.	<i>Buteo buteo</i>	Common Buzzard	T	LC	
32.	<i>Butorides striatus</i>	Little Green Heron	A	LC	
33.	<i>Cacomantis passerines</i>	Indian Plaintive Cuckoo	T	LC	
34.	<i>Calidris ferruginea</i>	Curlew sandpiper	A	LC	
35.	<i>Calidris pugnax</i>	Ruf	A	LC	
36.	<i>Calidris minuta</i>	Little Stint	A	LC	*
37.	<i>Calidris temminckii</i>	Temminck's stint	A	LC	
38.	<i>Caprimulgus indicus</i>	Indian Jungle Nightjar	T	LC	
39.	<i>Casmerodius albus</i>	Great Egret	A	LC	
40.	<i>Centropus sinensis</i>	Greater Coucal	T	LC	
41.	<i>Ceryle rudis</i>	Pied Kingfisher	D	LC	*
42.	<i>Charadrius alexandrinus</i>	Kentish Plover	A	LC	

43.	<i>Charadrius dubius</i>	Little Ringed Plover	A	LC	
44.	<i>Chlidonias hybridus</i>	Whiskered Tern	A	LC	
45.	<i>Chlidonias leucopterus</i>	White-winged Tern	A	LC	
46.	<i>Chroicocephalus brunnicephalus</i>	Brown-headed Gull	A	LC	
47.	<i>Chroicocephalus ridibundus</i>	Black-headed gull	A	LC	
48.	<i>Ciconia episcopus</i>	Woolly-necked Stork	A	LC	
49.	<i>Circus aeruginosus</i>	Eurasian Marsh Harrier	D	LC	
50.	<i>Circus macrourus</i>	Pallid Harrier	T	LC	
51.	<i>Circus melanoleucos</i>	Pied Harrier	T	LC	
52.	<i>Cisticola juncidis</i>	Zitting Cisticola	T	LC	
53.	<i>Clamator jacobinus</i>	Pied Cuckoo	T	LC	
54.	<i>Columba livia</i>	Rock Pigeon	T	LC	
55.	<i>Copsychus saularis</i>	Oriental Magpie Robin	T	LC	
56.	<i>Coracias benghalensis</i>	Indian Roller	T	LC	*
57.	<i>Corvus macrorhynchus</i>	Large-billed Crow	T	LC	*
58.	<i>Corvus splendens</i>	House Crow	T	LC	*
59.	<i>Cypsiurus balasiensis</i>	Asian Palm Swift	T	LC	*
60.	<i>Dendrocitta vagabunda</i>	Rufous Treepie	T	LC	*
61.	<i>Dicrurus adsimilis</i>	Black Drongo	T	LC	*
62.	<i>Dupetor flavicollis</i>	Black Bittern	A	LC	
63.	<i>Egretta garzetta</i>	Little Egret	A	LC	*
64.	<i>Elanus caeruleus</i>	Black-shouldered Kite	T	LC	*
65.	<i>Eremopterix grisea</i>	Ashy-crowned Sparrow Lark	T	LC	
66.	<i>Eudynamys scolopacea</i>	Asian Koel	T	LC	*
67.	<i>Falco tinnunculus</i>	Common Kestrel	T	LC	
68.	<i>Francolinus pondicerianus</i>	Grey Francolin	T	LC	*
69.	<i>Fulica atra</i>	Coot	A	LC	
70.	<i>Gallinago stenura</i>	Pintail Snipe	A	LC	
71.	<i>Gallix cinerea</i>	Watercock	A	LC	
72.	<i>Gallinula chloropus</i>	Common Moorhen	A	LC	*

73.	<i>Gelochelidon nilotica</i>	Gull-billed Tern	A	LC	
74.	<i>Glareola maldivarum</i>	Oriental Pratincole	A	LC	
75.	<i>Halcyon smyrnensis</i>	White-throated Kingfisher	D	LC	*
76.	<i>Haliastur indus</i>	Brahminy Kite	T	LC	*
77.	<i>Hierococcyx varius</i>	Common Hawk Cuckoo	T	LC	
78.	<i>Himantopus himantopus</i>	Black-winged Stilt	A	LC	
79.	<i>Hirundo rustica</i>	Barn Swallow	T	LC	
80.	<i>Hirundo smithii</i>	Wire-tailed Swallow	T	LC	
81.	<i>Hydrophasianus chirurgus</i>	Pheasant-tailed Jacana	A	LC	
82.	<i>Icthyophaga leucogaster</i>	White-bellied sea eagle	T	LC	
83.	<i>Ixobrychus cinnamomeus</i>	Cinnamon Bittern	A	LC	
84.	<i>Ixobrychus sinensis</i>	Yellow Bittern	A	LC	
85.	<i>Limosa limosa</i>	Black-tailed Godwit	A	LC	
86.	<i>Lonchura Malacca</i>	Black-headed Munia	D	LC	
87.	<i>Merops orientalis</i>	Green Bee-eater	T	LC	*
88.	<i>Merops philippinus</i>	Blue-tailed Bee-eater	T	LC	
89.	<i>Mesophoyx intermedia</i>	Intermediate Egret	A	LC	
90.	<i>Milvus migrans</i>	Black Kite	T	LC	*
91.	<i>Motacilla flava</i>	Yellow Wagtail	D	LC	
92.	<i>Motacilla maderaspatensis</i>	White-browed Wagtail	T	LC	
93.	<i>Mycteria leucocephala</i>	Painted Stork	A	NT	*
94.	<i>Nectarinia lotenia</i>	Loten's Sunbird	T	LC	
95.	<i>Nycticorax nycticorax</i>	Black-crowned Night Heron	A	LC	*
96.	<i>Oriolus oriolus</i>	Eurasean Golden Oriole	T	LC	
97.	<i>Orthotomus sutorius</i>	Common Tailorbird	T	LC	*
98.	<i>Pavo cristatus</i>	Indian Peafowl	T	LC	*
99.	<i>Passer domesticus</i>	House Sparrow	T	LC	*
100.	<i>Pelecanus philippensis</i>	Spot-billed Pelican	A	LC	*
101.	<i>Phalacrocorax carbo</i>	Great Cormorant	A	LC	

102.	<i>Phalacrocorax fuscicollis</i>	Indian Shag	A	LC	*
103.	<i>Phalacrocorax niger</i>	Little Cormorant	A	LC	*
104.	<i>Phalaropus lobatus</i>	Red-necked Phalarope	A	LC	
105.	<i>Phoenicopterus ruber</i>	Greater Flamingo	A	LC	
106.	<i>Phaenicophaeus tristis</i>	Green-billed Malkoha	T	LC	
107.	<i>Platalea leucorodia</i>	Eurasian Spoonbill	A	LC	
108.	<i>Plegadis falcinellus</i>	Glossy Ibis	A	LC	*
109.	<i>Ploceus manyar</i>	Streaked Weaver	T	LC	
110.	<i>Pluvialis squatarola</i>	Grey Plover	A	LC	
111.	<i>Porphyrio porphyrio</i>	Purple Swamphen	A	LC	*
112.	<i>Prinia inornata</i>	Plain Prinia	T	LC	*
113.	<i>Prinia socialis</i>	Ashy Prinia	T	LC	*
114.	<i>Psittacula krameri</i>	Rose-ringed Parakeet	T	LC	*
115.	<i>Psilopogon haemacephalus</i>	Coppersmith barbet	T	LC	*
116.	<i>Pycnonotus cafer</i>	Red-vented Bulbul	T	LC	*
117.	<i>Pycnonotus jocosus</i>	Red-whiskered Bulbul	T	LC	
118.	<i>Rostratula benghalensis</i>	Greater Painted-snipe	A	LC	
119.	<i>Saxicola caprata</i>	Pied Bush Chat	T	LC	*
120.	<i>Saxicoloides fulicata</i>	Indian Robin	T	LC	*
121.	<i>Spilornis cheela</i>	Crested Serpent-Eagle	T	LC	
122.	<i>Sterna albifrons</i>	Little Tern	A	LC	*
123.	<i>Sterna anaethetus</i>	Bridled Tern	A	LC	
124.	<i>Sterna aurantia</i>	River Tern	A	LC	*
125.	<i>Sterna caspia</i>	Caspian Tern	A	LC	
126.	<i>Streptopelia chinensis</i>	Spotted Dove	T	LC	*
127.	<i>Sturnus pagodarum</i>	Brahminy Starling	T	LC	*
128.	<i>Tachybaptus ruficollis</i>	Little Grebe	A	LC	*
129.	<i>Tachymarptis melba</i>	Alpine Swift	T	LC	
130.	<i>Tephrodornis pondicerianus</i>	Common Woodshrike	T	LC	
131.	<i>Terpsiphone paradise</i>	Asian Paradise-Flycatcher	T	LC	

132.	<i>Threskiornis melanocephalus</i>	Oriental White Ibis	A	LC	
133.	<i>Threskiornis melanocephalus</i>	Black-headed Ibis	A	NT	*
134.	<i>Tringa ochropus</i>	Green Sandpiper	A	LC	*
135.	<i>Tringa stagnatilis</i>	Marsh Sandpiper	A	LC	*
136.	<i>Turdoides affinis</i>	Yellow-billed Babbler	T	LC	
137.	<i>Turnix suscitator</i>	Common Buttonquail	T	LC	
138.	<i>Tyto alba</i>	Barn Owl	T	LC	*
139.	<i>Upupa epops</i>	Hoopoe	T	LC	
140.	<i>Vanellus indicus</i>	Red-wattled Lapwing	D	LC	*
141.	<i>Vanellus malabaricus</i>	Yellow-wattled Lapwing	D	LC	*
142.	<i>Zoothera citrine</i>	Orange-headed Thrush	T	LC	

LC – Least Concern; \* - Yes; T – Terrestrial; A – Aquatic; D – Dry/ desert; NT – Near Threatened

**Table 3.59.4. IUCN Status of major plant invasive alien species in Koonthankulam Bird Sanctuary**

S. No.	Species	Family	Tamil Name
1.	<i>Albizia saman</i>	Fabaceae	Rain tree
2.	<i>Alternanthera pungens</i>	Amaranthaceae	
3.	<i>Ipomoea carnea</i>	Convolvulaceae	
4.	<i>Lantana camara</i>	Verbenaceae	Unnichedi
5.	<i>Senna occidentalis</i>	Caesalpiaceae	Thagarai
6.	<i>Xanthium indicum</i>	Compositae	Marul oomatham

**Table 3.59.5. IUCN Status of major animal invasive alien species in Koonthankulam Bird Sanctuary**

S. No.	Species	Family	Common name	IUCN
A. Fish				
1.	<i>Clarias gariepinus</i>	Clariidae	African Catfish	LC

**Table 3.59.6. IUCN Status of major medicinal plant species in  
Koonthankulam Bird Sanctuary**

S. No.	Species	Family	Tamil Name	Habit
7.	<i>Abrus precatorius</i>	Fabaceae	Kundumani	Climber
8.	<i>Abutilon indicum</i>	Malvaceae	Thuthi	Shrub
9.	<i>Acalypha indica</i>	Euphorbiaceae	Kuppaimeni	Herb
10.	<i>Acanthospermum hispidum</i>	Compositae		Herb
11.	<i>Achyranthes aspera</i>	Amaranthaceae	Nayurivi	Herb
12.	<i>Aerva lanata</i>	Amaranthaceae	Peelai	Herb
13.	<i>Borassus flabellifer</i>	Arecaceae	Panai	Tree
14.	<i>Cardiospermum halicacabum</i>	Sapindaceae	Mudakotthan	Herb
15.	<i>Cynodon dactylon</i>	Poaceae	Aruhampul	Grass
16.	<i>Datura metal</i>	Solanaceae	Karu Oomatthai	Herb
17.	<i>Mukia leiosperma</i>	Cucurbitaceae		Climber
18.	<i>Solanum trilobatum</i>	Solanaceae	Thoodhuvalai	Herb
19.	<i>Tephrosia purpurea</i>	Fabaceae	Kozhinji	Herb
20.	<i>Tinospora cordifolia</i>	Menispermaceae	Seendhil	Climber
21.	<i>Tridax procumbens</i>	Compositae	Vettukkaaya-thazhai	Herb
22.	<i>Tylophora indica</i>	Asclepiadaceae	Naippalai	Climber

**CHECK LIST**

- ✓ Responsible agency has been clearly identified and details of contact person included
- ✓ Wetland/Wetlands complex boundary has been delineated using GIS and firmed up by adequate ground truthing
- ✓ Wetland/Wetlands complex map has been provided at required scale
- ✓ Zone of influence has been delineated and included in Wetland map or a separate map
- ✓ Wetland zone of influence is sufficient to manage all activities
- ✓ Site's importance have been listed, and for major categories, justification provided
- ✓ Site's biodiversity values are listed, and for major categories, justification provided
- ✓ List of pre-existing rights and privileges provided
- ✓ Consistency or, inconsistency of pre-existing rights and privileges indicated to be best of available knowledge

- ✓ Threats to site listed, and for major categories details provided
- ✓ Activities prohibited, beyond those already listed in Rule 4 (2) have been mentioned
- ✓ List of activities to be regulated within Wetlands and zone of influence is provided
- ✓ List of activities to be permitted is provided