



TAMIL NADU FOREST DEPARTMENT

**MANAGEMENT PLAN OF NANJARAYAN BIRD SANCTUARY,
TIRUPPUR DISTRICT**

(PERIOD 2022-23 to 2032-33)



Prepared by

**Deputy Director,
Anaimalai Tiger Reserve
Tiruppur Division**

**PROCEEDINGS OF THE PRINCIPAL CHIEF CONSERVATOR OF FORESTS
AND CHIEF WILDLIFE WARDEN, CHENNAI-15.**

Present: Thiru. Srinivas R. Reddy, I. F. S.,

Ref. No. WL5/19547/2023

Dated: 07-08-2023

Sub: Management Plan for Nanjarayan Birds Sanctuary for the period from 2022-23 to 2031-32 - Regarding.

Ref: Conservator of Forests and Field Director, Anamalai Tiger Reserve, Coimbatore Ref. No. D2/510/2022 dated 02-08-2023.

* * * *

The Management Plan for Nanjarayan Birds Sanctuary for the period from 2022-23 to 2031-32 prepared by Deputy Director, Tiruppur Division is approved and communicated subject to the following conditions.

- 1) Required amendments as and when felt necessary or based on field experience on implementing the Management Plan may be taken up only with approval from Principal Chief Conservator of Forests and Chief Wildlife Warden.
- 2) Management Plan shall be utilized for developing the Annual Plan of Operation and conservation projects for forthcoming financial years and ensured.
- 3) No deviation should be made from prescriptions now approved without prior approval of Principal Chief Conservator of Forests and Chief Wildlife Warden.

Z. S. Reddy
7/8/23
**Principal Chief Conservator of Forests
and Chief Wildlife Warden**

To
The Deputy Director,
Anamalai Tiger Reserve, Tiruppur Division.

R. S. Reddy
7/8/23
07/8/23

The Deputy Director is requested to send the approved Management Plan for Tiruppur Division (both hard and soft copy) with a copy of the Principal Chief Conservator of Forests and Chief Wildlife Warden's proceeding letter to the following officers immediately.

1	Principal Chief Conservator of Forests and Chief Wildlife Warden	2 Copies
2	Librarian, Office of the Principal Chief Conservator of Forests, Chennai- 32.	1 copies

Z. S. Reddy
7/8/23
**Principal Chief Conservator of Forests
and Chief Wildlife Warden**

Copy to the Conservator of Forests and Field Director, Anamalai Tiger Reserve, Coimbatore for information.

R. S. Reddy
7/8/23
07/8/23

INTRODUCTION

Nestled in the north-eastern part of the vibrant Textile City of Tirupur lies a sanctuary of unparalleled beauty and serenity – Nanjarayan Bird Sanctuary. Spanning over an expansive 125 hectares, this haven for both local and foreign migratory birds thrive in a peaceful environment, far removed from the bustling industrial areas of the city. Steeped in history, this reservoir, affectionately known as "Nanjarayan Tank" after the benevolent king who built it 400 years ago, continues to captivate hearts and minds with its awe-inspiring charm.

Sitting gracefully across the Nallar River, one of the tributaries of the meandering Noyyal River, Nanjarayan Tank showcases the remarkable water management prowess of the Tamilians. The tank's abundant water supply throughout the year, accompanied by optimal climatic conditions, serves as a magnet for a breath-taking array of avian species, both native and foreign.

Beyond its utilitarian role of providing sustenance to agriculture and benefiting mankind, Nanjarayan Tank has evolved into a thriving habitat for diverse wildlife, including a myriad of bird species, reptiles, aquatic plants, and verdant trees. From the regal Pelicans to the elusive Yellow Wagtails, a rich tapestry of domestic birds grace this sanctuary with their presence all year round. These avian residents, including the elegant Cormorants, Spot-billed ducks, Egrets, and Ibis, add a delightful symphony of colours and sounds to the tranquil landscape.

Yet, what sets Nanjarayan Tank apart is its wondrous allure to foreign migratory birds, drawing them from the distant realms of Europe and Russia. Every year, from the enchanting months of September to January, the sanctuary becomes a temporary home for an enchanting cast of visitors, including the Bar-headed goose, Northern pintail, Northern Shoveler, and Little Stint. These majestic creatures, gracing the sanctuary with their celestial presence, have transformed Nanjarayan Tank into a global destination for bird enthusiasts and conservationists alike.

Nanjarayan Tank's significance goes far beyond its ecological wonders. Near to the thriving urban landscape, the sanctuary emerges as a vital cornerstone in the conservation of biodiversity, showcasing the delicate balance between human development and the preservation of nature's gifts.

As a source of livelihood for the region's inhabitants, this sanctuary forms an inseparable bond between the people and the abundant wildlife it embraces. For bird lovers in Tirupur city and beyond, Nanjarayan Tank has become a cherished paradise where the hearts of both seasoned ornithologists and casual observers find solace in the harmony of nature's creations.

In recognition of its extraordinary ecological and cultural value, the Tamil Nadu government has decided to bestow upon Nanjarayan Tank the prestigious title of the 17th bird sanctuary of the state. This commendable move serves as a testament to the unwavering commitment of preserving our natural heritage for generations to come.

THIRU. DEVENDARA KUMAR MEENA, I.F.S.,
Deputy Director, Anamalai Tiger Reserve,
Tiruppur Division,
Udumalpet.

EXECUTIVE SUMMARY

Nanjarayan Bird Sanctuary, located in Tirupur, Tamil Nadu, spans 125 hectares, providing a haven for 187 bird species, including local and foreign migratory birds. Built 400 years ago by King Nanjarayan, the reservoir sustains water throughout the year, attracting a diverse ecosystem of avian species, reptiles, and aquatic plants. Domestic birds like Pelicans, Cormorants, and Egrets coexist with rare foreign visitors such as Bar-headed geese and Northern pintails from September to January. Its significance extends beyond ecological wonders, contributing to biodiversity conservation and supporting the livelihoods of the region's inhabitants. The Tamil Nadu government's decision to designate it the 17th bird sanctuary underscores its role in avian preservation. Nanjarayan Bird Sanctuary offers an inviting refuge for nature enthusiasts and a serene spectacle of avian diversity. Nanjarayan Bird Sanctuary holds a special place as a refuge for avian diversity and a vital ecosystem in the heart of Tirupur, Tamil Nadu. To ensure the sustainable conservation and development of this precious natural asset, a comprehensive management plan has been formulated with the following objectives:

Conserve the Rich Bird Diversity:

The primary objective of the management plan is to safeguard the diverse avian species that call Nanjarayan Bird Sanctuary home. By implementing measures to protect their habitats, nesting grounds, and feeding areas, we aim to preserve the sanctuary's vibrant birdlife for generations to come.

Protect the Ecosystem and Dependent Organisms:

Recognizing the interconnectedness of the ecosystem, the management plan prioritizes the protection of not only the avian inhabitants but also the diverse organisms dependent on the sanctuary's delicate balance. This includes reptiles, aquatic plants, and other wildlife, contributing to the overall biodiversity of the sanctuary.

Develop Eco-Tourism with Local Participation:

We aspire to strike a harmonious balance between conservation and responsible eco-tourism. Through community involvement and local participation, we aim to develop sustainable infrastructure facilities that offer visitors a chance to connect with nature while ensuring minimal impact on the sanctuary's delicate environment. The management plan ensures the involvement of regional non-governmental organizations working in the domain of nature conservation, such as Vanathukkul Tirupur and Nature Society of Tirupur, in eco-development activities who has been working for protection and conservation of this bird area since long time.

Promote Research Activities:

A critical aspect of the management plan is the encouragement of scientific research and studies within the sanctuary's boundaries. By fostering partnerships with research institutions and experts, we seek to deepen our understanding of avian behaviour, migratory patterns, and overall ecological dynamics.

Create a Conducive Environment for Ornithological Studies:

Nanjarayan Bird Sanctuary has the potential to become a hub for ornithological studies and research. By facilitating access to resources and support for researchers, we aim to foster a conducive environment that promotes in-depth exploration and discovery of avian life.

In summary, the Nanjarayan Bird Sanctuary Management Plan envisions a harmonious coexistence between wildlife conservation and sustainable human activities. With a focus on conserving bird diversity, protecting the ecosystem, promoting eco-tourism, supporting research endeavours, and nurturing ornithological studies, we endeavour to secure a bright and thriving future for this precious sanctuary. Through collective efforts and a shared commitment, we can ensure that Nanjarayan Bird Sanctuary remains a sanctuary of wonder and inspiration for generations to come.

The management plan for Nanjarayan Bird Sanctuary comprises three parts. The first four chapters focus on existing conditions and past management history. The second part of the management plan for Nanjarayan Bird Sanctuary (Chapters 5 to 12) outlines strategies for the next decade. It includes defining the vision, objectives, and addressing challenges (Chapter 5). Chapter 6 formulates comprehensive conservation strategies, while Chapter 7 emphasizes eco-tourism and education. Eco-development is covered in Chapter 8, research and monitoring in Chapter 9, and Chapters 10 to 12 focus on organizational aspects for effective implementation and protection of the sanctuary's rich bird diversity. This systematic approach aims to preserve the sanctuary's avian treasures and foster a shared commitment to conservation, ensuring a thriving ecological haven for generations to cherish.

THIRU. DEVENDARA KUMAR MEENA, I.F.S.,
Deputy Director, Anamalai Tiger Reserve,
Tiruppur Division,
Udumalpet.

ACKNOWLEDGEMENT

It has been a privilege to prepare the Management plan for Nanjarayan Bird Sanctuary for the period of 2022-23 to 2031-32. For the very first time, a Management Plan for Nanjarayan Bird Sanctuary, comprising core as well as buffer areas, has been prepared. Around 187 species, both resident and migrant, have been recorded in this bird sanctuary. This includes both water birds and terrestrial birds. Apart from the birds, this sanctuary is also home to many small animals, including Black-napped Hare, Grey mongoose, etc.

I acknowledge my highest regards and gratitude to Thiru. V. Irai Anbu, I.A.S., Ex-Chief Secretary to Government of Tamil Nadu, who was instrumental from the bird sanctuary declaration stage. His conservation led thought and kind support helped to resolve the initial hurdles.

I would like to place on record my sincere gratitude to Tmt. Supriya Sahu, I.A.S., Additional Chief Secretary to Government, Department of Environment, Climate Change, and Forest, Tamil Nadu for entrusting the responsibility and giving me the opportunity to prepare this management plan.

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MANAGEMENT PLAN FOR NANJARAYAN BIRD SANCTUARY 2022-2023

Sl. No	PARTICULARS	Page No
	PART – I THE PROTECDED AREA: EXISTING SITUATION	
	CHAPTER - I Introduction to the Area	
1	Introduction to the area	1
1.1	Name, Location, Constitution and Extent of Area	1
1.2	Approach and Access	2
1.3	The Statement of Significance	2
	CHAPTER – II Background Information and Attributes	
2.1	Boundaries	4
2.2	Geology, rock and soil	5
2.3	Terrain	5
2.4	Climate	5
2.4.1	Rainfall pattern and distribution	5
2.4.2	Temperature; a summary of year-round pattern	5
2.4.3	Humidity; a summary of year-round pattern	6
2.4.4	Wind speed, a summary of year-round pattern	6
2.4.5	Drought, and its periodicity	6
2.5	Water source	6
2.6	Range of Wildlife, Status Distribution, and Habitat	7
2.6.1	Vegetation	7
2.6.1.1	The biogeographic classification	7
2.6.1.2	The forest types, cover and food for wild animals	8
2.6.1.3	Species and communities of conservation importance; key areas	8
2.6.2	Animals	8
2.6.2.1	Vertebrates, their status, distribution and habitats. Habitat quality, quantity and key areas	9
2.6.2.2	The limiting factors	11
2.6.2.3	Important invertebrates, their status, distribution and habitat	11
	CHAPTER – III History of Management and Present Practices	
3.1	General	13
3.2	Timber operations including bamboo and firewood harvest	13

Sl. No	PARTICULARS	Page No
3.2.1	Silvicultural systems and tending operations	13
3.2.2	Evenaged systems and unevenaged systems	13
3.2.3	Bamboo working	13
3.2.4	Firewood harvest and collection	13
3.3	Non wood forest produce (NWP) collection	13
3.4	Leases	13
3.5	Other programs and activities	13
3.6	Forest Protection	13
3.6.1	Legal Status	13
3.6.2	Hunting	15
3.6.3	Illegal Activities	15
3.6.3.1	Poaching	15
3.6.3.2	Illegal cutting of trees	15
3.6.3.3	Illegal removal of NWP, encroachment and other illegal activities	15
3.6.4	Livestock grazing	15
3.6.5	Wildfire	16
3.6.6	Insect attacks and pathological problems	16
3.6.7	Wildlife Health	16
3.6.8	Interagency programme and problems	16
3.7	Tourism	18
3.8	Research, Monitoring & Training	19
3.8.1	Research and Monitoring	19
3.8.2	Training	20
3.9	Wildlife conservation strategies and their evaluation	20
3.10	Administrative Setup	21
3.11	Communication	21
3.12	Summary of threats to wildlife	21
	CHAPTER – IV The protected area and the interface landuse situation	
4.1	The existing situation in the zone of influence	22
4.1.1	The location, extent, boundaries and natural attributes of the ZI	22
4.1.2	Villages inside and outside the PA. Ethnic identities, traditions, customs, relationships between distinct groups of people, relationship with forests.	23
4.1.3	The state of the people's economy. Vocations, landuse, use of forests and non-forest based natural resources by people and seasonal patterns.	23
4.1.4	Implications of the landuse and resource dependency for the conservation of PA	24
4.1.5	Forest / PA management practices and their implications for people	24
4.2	The development programme and conservation issues	24
4.2.1	An evaluation of government and non-government agency programmes for development. Implications for the PA, people and the ZI.	24

Sl. No	PARTICULARS	Page No
4.2.2	The interplay of market forces and their impact on the subsistence economy of the local people	25
4.2.3	A summary of problems faced by people that affect the management of the PA & the ZI	25
	PART –II PROPOSED MANAGEMENT	
	CHAPTER -V The Vision, Objectives and Problems	
5.1	The vision	27
5.2	Objectives of Management	27
5.3	Problems in achieving objectives	28
	CHAPTER – VI The Strategies	
6.1	Boundaries	29
6.2	Zonation	30
6.3	Zone Plans	30
6.4	Theme plans	30
	CHAPTER – VII Ecotourism, Interpretation and conservation education	
7.1	General	31
7.2	Objects	31
7.3	Issues and Problems	31
7.4	The strategies	32
7.4.1	Identification of the zone	32
7.4.2	Infrastructure development	32
7.4.3	Regulations, monitoring and evaluation	33
	CHAPTER – VIII Eco development	
8.1	Objectives	35
8.2	Specific Issues	35
8.3	Board Strategies	36
8.4	Village Level Site Specific Strategies	37
8.5	Monitoring and Evaluation	38
	CHAPTER – IX Research, Monitoring and Training	
9.1	Research and Monitoring	39
9.2	Monitoring	40
9.3	Training	41

Sl. No	PARTICULARS	Page No
9.3.1	On the Job Training	41
9.3.2	Formal Training Courses	42
9.3.3	Establishing Learning Centre	42
CHAPTER - X Organization and Administration		
10.1	Structure and responsibilities	44
10.2	Staff amenities	44
CHAPTER - XI Budget		
11.1	The Plan Budget	45
CHAPTER - XII The Schedule of Operation and Miscellaneous Regulations		
12.1	The Schedule	58
12.2	Record of Deviations and Implemented Targets	58
12.3	Record of Employment Potential	58
12.4	Control Forms	58
12.5	Maintenance of Compartment Histories	59
12.6	A Pocket Field Guide for Plan Implementation	59
	Tables	60
	Diagrams and Designs	71
	Glossary	75
	Abbreviations Used	77
	Reference	78
COMPONENT 2 (PART III) Appendices and Maps		
No	Annexure	Page No
I	Notification of Sanctuary	80
II	Proposal to declare the Nanjarayan Tank as Bird Sanctuary	94
III	Checklist of Birds in Nanjarayan Bird Sanctuary	97
IV	Checklist of flora in Nanjarayan Bird Sanctuary	102
V	List of Fishes in Nanjarayan Bird Sanctuary	104
VI	List of Reptiles in Nanjarayan Bird Sanctuary	104
VII	List of Mammals in Nanjarayan Bird Sanctuary	104
VIII	FORM WM – 1.1. Restoration of habitat: weed control, subsequent operations	105
IX	FORM WM –1.2. Restoration of habitat: area under protection / closure	106

Sl. No	PARTICULARS	Page No
X	FORM WM –1.3. Animals: measuring trends in populations (year)	107
XI	FORM WM –1.4. Animals: mortality attributed to poaching or an act of vandalism	108
List of Maps		
No	Maps	Page No
1	Map showing the Aerial view of Nanjarayan Bird Sanctuary	109
2	Location Map Nanjarayan Bird Sanctuary, Tiruppur District	110
3	Map showing the Topography of Nanjarayan Bird Sanctuary	111
4	Contour Map of Nanjarayan Bird Sanctuary	112
5	Map showing Nallaru river basin	113
6	LCLU Map of Nanjarayan Bird Sanctuary and its surrounding area	114
7	Map Showing the Nallaru river and existing baby canal	115
8	Map showing Zone of Influence of Nanjarayan Bird Sanctuary	116

PART I

The Protected Area: Existing Situation

CHAPTER I
INTRODUCTION TO THE AREA

1. Introduction to the Area:

The aerial view of Nanjarayan Bird Sanctuary is shown in Map 1.

1.1. Name, Location, Constitution, and the Extent of the Area:

Name: Nanjarayan Bird Sanctuary (also known as Nanjarayan Tank) is located in Sarkar Periyapalayam Village of Uthukuli Taluk and Neruperichal Village of Tiruppur North Taluk, Tiruppur District. The lake traces its history back 750 years and got its name, Nanjarayan Lake, as it was repaired by the troops of King Nanjarayan. The other names of the lake are Sarkar Periyapalayam Lake or Koolipalayam Lake.

Location: Nanjarayan Bird Sanctuary is situated in Tiruppur North and Uthukuli taluks in Tiruppur District. It lies at 11°08'50.00"N Latitude and 77°02'59.00"E Longitude. The location of Nanjarayan Bird Sanctuary is shown in Map 2.

Constitution: The Nanjarayan Tank has been designated as Nanjarayan Bird Sanctuary under section 18 of the Wildlife (Protection) Act, 1972, as per the GO (Ms) No.154 Environment and Forest (FR-V) Department.

The Extent of the Area: The total area of Nanjarayan Bird Sanctuary is 311 Acres. The location map of Nanjarayan Bird Sanctuary is shown in Map 1.



1.2 Approach and Access:

The Nanjarayan Bird Sanctuary can be approached from Tiruppur City (8 km) via Uthukuli road, from Coimbatore (50 km) via Perumanallur, and from Erode (50 km) via Uthukuli. The nearest airport to Nanjarayan Bird Sanctuary is Coimbatore International Airport. It is also accessible by train from Chennai and Coimbatore through Tiruppur Railway Station.

1.3 The Statement of Significance:

The Nanjarayan Tank is considered the Tank of Sukreeshwara Temple, which is situated 0.5 km East from the Tank. In earlier days, devotees of this temple used to visit and perform rituals in this tank during their visits to the temple.



View of Sukreeshwara Temple

Originally, the tank was refurbished by King Nanjarayan for agricultural purposes. The tank is situated on the Nallaru River, a subsidiary of the Noyyal River. Until the later parts of the 20th century, the Nanjarayan tank's water was being used for irrigation purposes. However, after the formation of textile dyeing industries in Tiruppur, the river water became polluted and is

now unsuitable for agricultural purposes.

The Nanjarayan Bird Sanctuary is located in close proximity to the bustling urban environment. As the tank is an important feature in conserving biodiversity in the urban area, numerous bird watchers from Tiruppur and Coimbatore cities regularly visit for bird watching.

Around 187 bird species have been identified in this bird sanctuary. Pelicans, Cormorants, Grey Herons, and Painted Storks are the most common bird species found in the sanctuary, and they can be seen throughout the year in the sanctuary area.

The Nanjarayan Bird Sanctuary serves as a foraging ground for waders like Little Ringed Plovers, Sand Plovers, Black-winged Stilts, Sandpipers, Black-headed Ibises, Purple Ibises, and others.

The large-sized water birds in the sanctuary include Pelicans, Painted Storks, Spoonbills, Black-headed Ibises, Grey Herons, and Purple Herons.



Small-sized waterbirds, such as Little Grebes, Plovers, Purple Swampheens, Moorhens, Common Coots, Cattle Egrets, Little Egrets, and White-breasted Kingfishers, are also commonly found in this bird sanctuary.

The sanctuary witnesses an impressive influx of migratory birds during different seasons, making it a year-round spectacle for bird enthusiasts. The migratory birds' patterns can be classified into two major categories: winter migrants and summer migrants.

As winter sets in, Nanjarayan Bird Sanctuary becomes a sanctuary for several species seeking respite from the harsh cold of their breeding grounds. Birds such as the Siberian Crane, Bar-headed Goose, and Common Teal journey thousands of kilometres from their breeding grounds in Siberia, Central Asia and Europe to find solace in the sanctuary's temperate climate. The sanctuary's abundance of wetlands and marshes provides an ideal habitat for these winter migrants to rest, feed, and replenish their energy reserves.

During the summer months, the sanctuary plays host to a different array of migratory birds that travel from various regions to breed and rear their young. These summer migrants include species like the Asian Paradise Flycatcher, Blue-tailed Bee-eater, and Indian Pitta. They embark on extensive journeys, leaving behind their winter abodes in Africa and Southeast Asia to find suitable nesting sites in Nanjarayan Bird Sanctuary's lush forests and woodlands.

CHAPTER – II

BACKGROUND INFORMATION AND ATTRIBUTES

2.1 Boundaries

- North** : Starting from Tri- junction of Village No.7 Mannarai and Village No. 3 Neruperichal of Tiruppur - North Taluk and Village No. 37. Sarkar Periyapalayam of Uthukuli Taluk, then run towards East along the Southern side of Survey Field Numbers 458, 457, 456, 448 and 447 of Village No.3. Neruperichal Village then run towards north along Eastern side of Survey Field Numbers 445, 444, 451 and 462 of Village No.3. Neruperichal Village then run towards East along Southern side of Survey Field Numbers 442, 441 and 440 of Village No.3 Neruperichal Village and run towards South along the Western side Survey Field Numbers 437,436 and 433 of Village No.3 Neruperchal Village.
- East** : Then the Boundary runs generally towards South and the along Western side Survey Field Numbers 123,122,121 and 39 of Village No.37. Sarkar Periyapalayam
- South** : Then the Boundary runs towards West along with Northern side of Survey Field Numbers 38, 36, 35, 31, 30, 21, 20, 19, 18, 17 and 16 of Village No.37 Sarkar Periyapalayam
- West** : Then the Boundary runs generally towards North along with Eastern side of Survey Field Numbers 9, 5, 4, 3 and 2 of Village No.37 Sarkar Periyapalayam and Survey Field Numbers 2, 1 and 13 of Village No.7. Mannarai Village boundary and joins the starting point

The Sarkar Periyapalayam Tank (Nanjarayan Tank) is located around 11° 08' 05" N and 77° 22' 59" E is a large wetland situated along the north - eastern region of Uthukuli and Tiruppur North Taluks of Tiruppur district in Tamil Nadu.

2.2 Geology, Rocks, and Soil:

The predominant soil present in the tank is black cotton soil, but during the release of water, alluvial soil is deposited every year. The rocks in the tank primarily belong to the Archean age (more than 2.5 billion years old) and are part of the Dharwar Supergroup. The Dharwar Supergroup consists of various rock types, including granites, gneisses, schists, and metavolcanic rocks. These rocks have undergone extensive metamorphism and deformation over millions of years. The humus content of the soil is low.

2.3 Terrain:

The sanctuary terrain is flat with a gentle slope from West to East. The sanctuary has been desilted to a large extent, and deepening in isolated areas is carried out in recent years by the Public Welfare Department.

2.4 Climate:

The climate is mainly subtropical with hot summers and moderately cool winters.

2.4.1 Rainfall Pattern and Distribution:

Tiruppur district is located in the western part of Tamil Nadu, India. The district falls under a semi-arid climate zone with distinct wet and dry seasons. The average annual rainfall in Tiruppur district ranges from approximately 600 to 900 millimeters, with variations across different parts of the district. The primary rainy season in Tiruppur district is during the southwest monsoon, which typically occurs from June to September. During this period, the district receives the majority of its annual rainfall. The months of January to May constitute the dry season in Tiruppur district. During this period, the region experiences relatively low rainfall and drier weather conditions. Year-wise rainfall data (available years) is provided in Table 1 and Diagram 1.

2.4.2 Temperature - A Summary of Year-Round Patterns:

The summer season in Tiruppur district is typically hot and dry. During this period, temperatures can range from 30°C (86°F) to 40°C (104°F) or even higher, especially in the peak summer months of April and May. As the monsoon season sets in, the temperatures in Tiruppur district begin to gradually decrease, with temperatures ranging from 25°C (77°F) to 35°C (95°F). Year-wise temperature data (available years) is provided in Table 2 and Diagram 2.

2.4.3 Humidity - A Summary of Year-Round Patterns:

During the summer months, Tiruppur district experiences relatively low to moderate humidity levels. The humidity typically ranges from around 40% to 60%. With the onset of the monsoon season, humidity levels in Tiruppur district begin to increase. During this period, the district experiences a gradual rise in humidity, ranging from around 60% to 80%. The monsoon and post-monsoon months in Tiruppur district are characterized by relatively higher humidity levels. Humidity during this period typically ranges from around 70% to 90%. Year-wise humidity data (available years) is provided in Table 3 and Diagram 3.

2.4.4 Wind Speed - A Summary of Year-Round Patterns:

During the summer months, Tiruppur district generally experiences moderate to strong wind speeds. The exact wind speeds can vary but typically range from around 10 to 20 kilometers per hour. As the monsoon season sets in, the wind speeds in Tiruppur district tend to decrease slightly. During this period, the district experiences light to moderate winds, with speeds ranging from around 5 to 15 kilometers per hour. The monsoon and post-monsoon months in Tiruppur district generally see a slight increase in wind speeds compared to the previous period. Wind speeds typically range from around 10 to 20 kilometers per hour. Year-wise wind speed data (available years) is provided in Diagram 4.

2.4.5 Drought and its Periodicity:

Tiruppur district, like many other regions in Tamil Nadu, has experienced episodes of drought in the past. Due to high temperatures and low rainfall in the maximum months of a year, the area faces extended periods of drought. Year-wise drought data (available years) is provided in Diagram 5.

2.5 Water Source:

Nanjarayan Tank is located in the Nallaru river basin. Nallaru, being one of the tributaries of the Noyyal river, runs through Tiruppur city and floods the Nanjarayan Tank. Since Nallaru is a seasonal river, the bird sanctuary receives water only during the North-West monsoon and retreating monsoon seasons.

Hydrology:

Tiruppur district is situated in the Western Agroclimatic zone. The primary source of water for Nanjarayan Tank is Nallaru river. The catchment area of the Nallaru river collects rainwater, which flows into the reservoir and gets stored. The amount of water in the tank depends on the rainfall received in the Nallaru river basin.

Drainage Pattern:

The sanctuary tank is fed by the Nallaru river, which receives water from the North-West monsoon and retreating monsoon. The sanctuary is part of the Noyyal watershed; number 4B2C2f4, which is part of the Noyyal river basin. Nallaru river is the only water resource for Nanjarayan Tank. Since the Nallaru river runs through the heart of Tiruppur city, it gets polluted by sewage and effluent released into it. Hence, there are proposals to revive the Nallaru river to ensure a clean water supply to the tank. The lake has a single inlet but water is discharged from sluice and two weirs. The drainage pattern of Nanjarayan Bird Sanctuary is shown in Map 2.



Weirs of Nanjarayan Tank

2.6 Range of Wildlife, Status Distribution, and Habitat

2.6.1 Vegetation:

There is no natural forest in the Sanctuary. Most of the vegetative growth in the sanctuary area is dominated by *Prosopis juliflora*. Occasionally, *Acacia nilotica* trees are present, which are most preferred by birds for their nesting. Additionally, the bird sanctuary has a very



Prosopis domination in Nanjarayan Bird Sanctuary

good biodiversity of herbs and grasses. *Ipomoea cornea* becomes the major water weed. Floating and partly submerged plants include *Hydrilla verticillata*, *Salvinia*, and *Spirodela polyrhiza*.

2.6.1.1 The Biogeographic Classification:

Geologically, hard rock and sedimentary formations are found here from depths beyond 3 meters. The sanctuary terrain is flat with a gentle slope from West to East.

2.6.1.2 The Forest Types, Cover, and Food for Wild Animals:



The various habitat types supported by Nanjarayan Bird Sanctuary include open water, partially submerged *Acacia nilotica* trees, islands planted with *Acacia nilotica*, emergent sedges and reeds, and open grasslands. Fishes and mollusks available in the tank act as a food source for certain types of birds.

2.6.1.3 Species and Communities of Conservation Importance; Key Areas:

Planted trees are used by the birds for roosting and nesting. The aquatic vegetation of the sanctuary is mainly dominated by sedges (*Fimbristylis* spp., *Cyperus* spp.) and reeds (*Typha*). The *Acacia nilotica* plantation is the major nesting site for the birds. In the wetland, *Typha angustifolia* and *Fimbristylis* sp. are present. *Ipomoea cornea* grows as a weed in many parts of the tank. Floating and partly submerged plants include *Hydrilla verticillata*, *Salvinia*, and *Spirodela polyrhiza*. Floating as well as submerged aquatic plants such as *Vallisneria* and *Hydrilla* are highly useful for nesting by ducks. Emergent sedges, rushes, and grassy bank areas attract many wading birds. Vegetation of this type provides cover for water-birds and nesting sites. Ducks, Moorhens, and Coots use open water for loafing and feeding in emergent vegetation and grassy bank areas. Ibis, Herons, and Swamp-hens are also attracted to fringing vegetation as feeding areas.

2.6.2 Animals:

The important avifauna of the Sanctuary includes migratory water birds. Up to 50,000 migratory water birds have been recorded visiting the sanctuary during the peak season in January. Birds start arriving in September and stay until May. Important birds include the high-flying Bar-headed Goose, White Stork, Woolly-necked Stork, Grey Pelican, Spoonbill, Openbill Stork, Grey Heron, Night Heron, Pond Heron, Purple Heron, Egrets, and Glossy Ibis.

Other fauna includes the Black-napped Hare, Grey mongoose, etc., seen in the scrub patches and in *Prosopis* covers. Only two types of fish are present in this lake, namely the African catfish and African tilapia fish. Shallow waters are rich feeding areas for a range of migratory waders such as the Stint, Curlew Sandpiper, etc., who probe the water and flats for tiny animals. Larger water-birds with long legs and bills, such as the Egret, Pelican, Spoonbill, Avocet, Stilt, Heron, Curlew, and the Oystercatcher, can be found in the shallows, probing, spearing, sieving, and scooping for food. Deep open water attracts diving water-birds such as Teals, Coots, Cormorants, Grebes, and some Ducks which dive for bottom-dwelling animals or aquatic vegetation. Other water-birds such as Kingfishers feed on fish close to the surface.

2.6.2.1 Vertebrates, Their Status, Distribution, and Habitats. Habitat Quality, Quantity, and Key Areas:

Among the bird species recorded, the most numerous were Pelicans, Painted Storks, Cormorants, and Spot-billed Ducks. The Spotted-billed Pelican (SPB), a globally Near Threatened species (IUCN 2007) and a resident of India, was reported breeding at this lake. As the majority of the lakes in Tamil Nadu go dry in summer, it is presumed that Spot-billed Pelicans move from dry places to sites with adequate water. Although Nanjarayan goes 60% dry in the month of May, it could still attract a significant number of Spot-billed Pelicans from other parts. In addition to breeding individuals, Nanjarayan also harbors non-breeding individuals every year. Among the breeding species, Spot-billed Pelicans arrive late and extend their breeding activity till April while other species have already completed their breeding activities. Furthermore, the lake also harbors the Near Threatened species of birds, viz., Painted Stork and Oriental White Ibis.

The major part of the Sanctuary is under *Prosopis juliflora* followed by Typha and floating plants. The remaining area is composed of grass and bare land. The natural and planted vegetation present inside and on the edges of the lake consists of *Ficus* spp, *Acacia nilotica*, *Prosopis juliflora*, *Azadirachta indica*, *Tamarindus indica*, *Borassus flabellifer*, *Cassia siamiae*, *Holoptelia integrifolia*, *Syzygium cumini*, *Pongamia pinnata*, *Prosopis spicigera*,



Coucal

Terminalia arjuna, *Samanea saman*, and *Phoenix loureiroi*, etc.

Flagship species:**Bar-headed Goose (*Anser indicus*):**

A large-sized (75 cm long) goose with a greyish-white body visits the sanctuary as a winter migrant from as far as Siberia and Mongolia regions. A conspicuous black bar across the snicput from eye to eye is the characteristic morphology of this bird and hence the name. They congregate in gregarious flocks. It breeds in Kashmir and flies elsewhere during winter. The bird is a vegetarian and feeds on grass, tubers, paddy, and other grains. The Bar-headed Goose is known to fly 7000 km across continents and fly as high as 11,000 meters, enough to cross Mt. Everest, hence it is considered the highest-flying bird.

**Grey Pelican (*Pelecanus philippensis*):**

The Spot-billed Pelican or Grey Pelican is one of the most threatened bird species in the world. The Spot-billed Pelican is a relatively small bird compared to other pelicans. Spot-billed Pelicans were formerly common across Asia, but following a widespread decline, they are now confined to India, Sri Lanka, Cambodia. In southern India, about 21 known breeding colonies exist in the states of Andhra Pradesh, Karnataka, and Tamil Nadu. Even though this species is mostly resident (non-migratory), during the non-breeding season, they may make local movements in search of food. They inhabit various deep and shallow wetlands, from freshwater to saline, in open or forested areas. They are often seen on large bodies of water,

particularly large lakes. They breed in colonies in tall trees or palms, and in some places, nesting pairs are found close to human habitations. They feed in open water, mostly on fish.

Painted Stork (*Mycteria leucocephala*):

The bird is found in the Asian continent, covering the area from India and Sri Lanka to Southeast Asia. Painted Storks are found mostly in large colonies and stay near water. The nests, made up of sticks and leaves, are built close to the edge of the water. They are resident birds and are found in Indian lowland wetlands with trees. Painted Storks search for fish in shallow waters. With their bills half open and shaking their heads back and forth, they will occasionally use a

wing to direct the fish toward their open bill.

They nest in colonies with other Storks, Ibises, Spoonbills, Cormorants, and Herons. Male storks gather most of the sticks for nest building. While



young storks are able to call loudly, by 18 months they become practically voiceless. The Painted Stork can live 28 years in captivity.

2.6.2.2 The Limiting Factors:

Wetlands provide habitat for birds. Birds use wetlands for feeding, nesting, breeding, rearing young, and as a refuge. Many species also depend upon wetlands for refueling and resting during migration. Due to the presence of seasonal or permanent water, wetlands have a great diversity of plants and animals, thereby supporting a large number of water-birds.

Birds fly to agricultural fields, feed on the insects, and thus avoid pest manifestations to a large extent. The Cattle Egret is often seen in the company of grazing animals. The grazers stir up insects, which the egret eats.

2.6.2.3 Important Invertebrates, Their Status, Distribution, and Habitat:

Nanjarrayan Bird Sanctuary is a freshwater wetland habitat. Invertebrates, including arthropods (insects, arachnids), mollusks (chitons, snails, bivalves), and annelids (earthworms and leeches), are present. Habitat zonation in the wetland shows four main habitat types. The depth of the water in the wetland varies, with the maximum depth recorded being 6 meters during the monsoon period and the lowest being 0.3 m in the summer season.



CHAPTER - III
HISTORY OF MANAGEMENT AND PRESENT PRACTICES

3.1 General:

Nanjarayan tank was first proposed for sanctuary declaration in 2020. It has been notified under sub-section (1) of section 18 of the Wild Life (Protection) Act, 1972 (Central Act 53 of 1972) as per G.O.(Ms) No.154 Environment and Forest (FR-V) Department dated 12th September 2022. The sanctuary is a system irrigation tank and is managed by the PWD department. See to annexures for G.O.(Ms) No.154 Environment and Forest (FR-V) Department dated 12th September 2022

3.2 Timber Operations Including Bamboo and Firewood Harvest:

Originally, Nanjarayan Birds Sanctuary is an irrigation tank belonging to the PWD department and has been notified as a bird sanctuary, so no timber operations including bamboo and firewood harvest are processed.

3.2.1 Silvicultural systems and tending operations	Nil
3.2.2 Evenaged systems and unevenaged systems	Nil
3.2.3 Bamboo working	Nil
3.2.4 Firewood harvest and collection	Nil

3.3 Non-Wood Forest Produce (NWP):

No such operations are allowed since it has been notified as a bird sanctuary.

3.4 Leases:

No areas under the bird sanctuary are leased out.

3.5 Other programmes and activities - NIL

3.6 Forest Protection

3.6.1 Legal Status:

Nanjarayan Birds Sanctuary is an irrigation tank belonging to the PWD department and has been notified under sub-section (1) of section 18 of the Wild Life (Protection) Act, 1972 (Central Act 53 of 1972) as per G.O.(Ms) No.154 Environment and Forest (FR-V) Department dated 12th September 2022. (**Annexure I**)

G.O.(Ms) No.154 Environment and Forest (FR-V) Department dated 12th September 2022, and the notification has been issued under Section 18 (1) of the Wildlife (Protection) Act, 1972 (Central Act 53 of 1972), the Governor of Tamil Nadu declaring the intention to constitute the area for an extent of 125.86.5 Ha of area in Sarkar Periyapalayam village of Uthukuli taluk and Neruperichal village of Tiruppur North Taluk in Tiruppur District as "Nanjarayan Birds Sanctuary".

Role of Line Departments in the Management of Nanjarayan Bird Sanctuary:

A meeting was conducted on 18.08.2022 at the Chief Secretary conference hall under the chairmanship of The Chief Secretary, Tamil Nadu. The participants included the Additional Chief Secretary to the Government, Water Resource Department; The Principal Chief Conservator of Forests and Chief Wildlife Warden, Chennai; The District Collector, Tiruppur; The Conservator of Forests and Field Director, ATR, Coimbatore; and The Deputy Director, ATR, Tiruppur Division, Udumalpet.

The decisions made out of the deliberations of the meeting clarify the role of the line department in the management of Nanjarayan Tank after its notification as a Bird Sanctuary (Annexure II).

i. Prohibition of commercial fishing:

As commercial fishing depletes the food source of birds and degrades the quality of the bird habitat in the sanctuary, it was decided that commercial fishing will not be permitted in Nanjarayan Tank.

ii. Development of Eco-tourism in Nanjarayan Bird Sanctuary:

Since Nanjarayan Tank is situated very near to Tiruppur City, it will be the most available Eco-tourism place for the residents of Tiruppur City and other parts of the district. Hence, the Forest Department may consider developing Eco-tourism in Nanjarayan Bird Sanctuary. To make the sanctuary an attractive Eco-tourism place, necessary works such as infrastructure development, Ornithology Centre, and visitor facilities should be carried out.

iii. Ownership of the land shall remain with the Water Resources department:

Even after Nanjarayan Tank is notified as a Bird Sanctuary, the ownership of the land will remain with the Water Resources Department.

iv. Water Resources Department can carry out any of their developmental works without any hindrance:

All the tanks owned by the Water Resources Department are subject to annual maintenance works. In such a scenario, without any hindrance, the Water Resources Department can carry out any regular maintenance works such as routine inspection, rehabilitation of sluices and weirs, and maintenance of bunds.

v. A few court cases are pending before the National Green Tribunal related to sewage treatment of inflow into Nanjarayan Tank. In light of the situation, a team of engineers from the Tamil Nadu Pollution Control Board will be deputed to inspect the Nallaru River course along with officials from the Water Resources Department to suggest pollution control measures."

3.6.2 Hunting:

Hunting is prohibited inside the sanctuary. Since there are no Anti-poaching watchers deemed for the protection of the sanctuary, Deer watchers of Tiruppur Range stationed at vulnerable locations are protecting the birds from poaching.

3.6.3 Illegal Activities:

3.6.3.1 Poaching:

Poaching inside the sanctuary has not been reported till date.

3.6.3.2 Illegal Cutting of Trees:

No illegal cutting inside Nanjarayan sanctuary has been reported after the declaration of the sanctuary under section 18 (1) of the Wildlife (Protection) Act, 1972.

3.6.3.3 Illegal Removal of NWP, Encroachment & Other Illegal Activities:

Sporadic incidences of illegal fishing activity are reported during dry months between April to July as there will be a drastic reduction in the water level. Its impact on bird population must be studied, and suitable action must be initiated.

3.6.4 Livestock Grazing:

Livestock grazing takes place in the peripheral areas during the dry summer months when the higher parts of the tank remain dry. Though the food preferences of cattle and birds are different, continuous movement and grazing of cattle might disturb the population of waders



and birds like lapwings. Hence, grazing in the sanctuary areas will pose a threat to the birds. Also, grazing in the peripheral areas will cause disturbance to the nearby bird habitat as the cattle presence may disturb the larger water birds.

Dependence:

Since the water of Nanjarayan Tank is polluted beyond the permissible limits, it cannot be used for drinking as well as irrigation purposes. Though a smaller population of fringe villages uses the tank as grazing ground during the summer season.

3.6.5 Wildfires:

Nanjarayan Bird Sanctuary is not situated in a Reserved Forest Area and also does not have a very dense vegetation cover. Hence, no wildfire has occurred in the past. Strengthening of the bund helps to prevent the spread of fire from the outside areas of the sanctuary.

Infrastructure facilities available: NIL

3.6.6 Insect Pest Attacks and Pathological Problems:

Insects are a critical source of protein for most birds, especially growing nestlings. So, insect problems have not been reported so far in the sanctuary.

3.6.7 Wildlife Health:

There are four mounds already present in the sanctuary area. Additional mounds have to be formed with tall grasses, which would improve the habitat for ducks and coots for nesting. The dead tree trunks are ideal perches for birds like herons, cormorants, darters, and pelicans. Some hole-nesting birds like the Indian Roller may also breed in these trunks. If some of the trunks are sturdy, they may be used to erect nesting platforms that may attract more water birds to build nests. Some logs and rocks can be left protruding from the water for water birds to roost on. Branches and large logs can be placed around the edge of the wetland at varying heights to provide roosting and nesting sites.

3.6.8 Interagency Programmes and Problems:

Excess aquatic vegetation needs to be removed periodically to maintain water quality as well as the availability of food resources for birds. A number of water-birds utilize tree hollows or forks for nests. Bunds can also be planted (enriched) with *Saccharum spontaneum* (Naanal) and Vettiver grasses. Enhanced storage of water will improve vegetation succession.

Invasive Alien Species:

Invasive alien species are a major threat to biodiversity. They can alter ecosystem services and processes, reduce native species abundance and richness, decrease genetic diversity, change nutrient cycling and productivity, and modify food webs. Wetlands are extremely vulnerable to invasion.

a. *Ipomoea cornea* (“Neyveli kaatamani”):

Proliferation of *Ipomoea cornea* (Neyveli Kaatamani) was mainly found in the North and Eastern regions of the sanctuary. It is a native shrub of South America and grows in dense populations along river beds, canals, and other waterlogged areas. Its rapid growth rate, spread, and adaptability from xeric to aquatic habitats indicate that this plant can become a disastrous invasive species in water bodies. It infests water bodies by displacing native plants, creating a dense canopy, and facilitating parasite breeding.



Ipomoea infestation in Nanjarayan Tank

Control measures:

Ipomoea cornea can be physically removed by pulling. It can also be used as livestock feed, raw material for pulp and paper production, and a source of drugs, etc.

b. *Prosopis juliflora* (Seemai Karuvel):



Prosopis juliflora invasion is found throughout the sanctuary area. It is the dominating vegetation in Nanjarayan Birds Sanctuary. Rapid and prolific seeding, efficient dispersal by livestock feeding, and the lack of organized attempts have led to its widespread invasion. *Prosopis juliflora* is able to survive in areas of exceptionally low rainfall. The *Prosopis juliflora* can colonize degraded areas and occupy previously woody regions.

Control measures:

Hand-digging is effective on small infestations, whereas dense infestations have to be uprooted. To prevent reshooting, the root has to be ploughed to avoid the growth of buds in the root system (about 30 cm below the surface). Mechanical control methods such as bulldozing and bio-control methods using leaf-tying moths (*Erbessaevippe*) to cause defoliation, and the use of a sap-sucking Psyllid (*Prosopidopsylla flava*) that causes dieback are currently being tested. The existing Eco development communities may be engaged in the removal of invasive species in this sanctuary.

3.7 Tourism:

Eco-Tourism Zone:

The sanctuary at present is not attracting many visitors as it is not popular among the people of Tiruppur District, and also due to the absence of infrastructure facilities. However, with growing interest in wildlife, the number of birders is gradually increasing. The sanctuary can be developed into a major tourist attraction as it is the site for the largest congregation of

water birds in any tank in the district. Since this is the only bird sanctuary available in the Tiruppur District, there is huge potential for Eco-tourism development.

a) Existing Facilities: Nil

b) Focus:

i. A detailed Project Report for the sustainable development of ecotourism in Nanjarayan Bird Sanctuary is under preparation. This report will propose an advanced Wildlife Conservation Centre, Welcome Arch, Parking area, Nature trail, Children Park, Watch Tower, Watch Deck, Approach Road, Murals and Sign Boards, Open amphitheater, Food courts, Conference Hall, and Veterinary Unit inside the sanctuary.

ii. The sanctuary area will be bifurcated into Two Zones as the core zone and ecotourism zone for the purpose of efficient administration of the sanctuary.

3.8 Research, Monitoring & Training:

3.8.1 Research & Monitoring:

Research activity is scant as there is no field biologist in the sanctuary. It requires the appointment of in-house researchers, especially in biology and ecology.

- i. Integration of wetlands within the landscape matrix.
- ii. Limnological studies to understand the food chain of the Nanjarayan Lake Eco-system.
- iii. Fragmentation Research is required to investigate how changing sizes and patterns of distinct wetlands affect their use by a variety of wetland birds.
- iv. Population fluctuation of Piscivorous birds in relation to the breeding season of major fishes.

Monitoring:

Monitoring is limited to taking daily bird counts by the field staff and conducting annual censuses whenever funds permit. Monitoring of the birds visiting the sanctuary, their habits, and habitat has to be done continuously.

- i. Regional, national, and international monitoring of populations
- ii. Monitoring of Tree-nesting aquatic birds during the rainy season and ground-nesting birds survey during summer.
- iii. Species-wise population monitoring of individual water bird species round the year.

- iv. Water level control. If dams are in use, flooding during the nesting season must be avoided, or else birds nesting on the ground or even over water may be flooded out.
- v. Control of pesticide use.
- vi. Regulation of human disturbance.
- vii. Public awareness.
- viii. Environmental economics of the lake to understand both the direct and indirect benefits derived from the lake.

3.8.2 Training:

At present, there is no staff in the sanctuary with training in wildlife management. Providing training to the staff would improve their efficiency and enable them to provide proper information and guidance to the people. Short-term training programs can be organized for the staff. Promising staff members can be deputed for training at the Bombay Natural History Society for intensive training. The following capacity-building training is required.

- i. Annual refresher course on wildlife management
- ii. Wildlife management training for the interested frontline staff through Wildlife Institute of India, BNHS, etc.
- iii. Study and exposure visit to other bird sanctuaries for the frontline staff and wildlife managers.

3.9 Wildlife conservation strategies and their evaluation:

Infrastructure developments:

No infrastructure facilities have been developed inside the sanctuary so far. For the development of ecotourism in the sanctuary, the following infrastructure facilities have to be developed.

- (i) Wildlife Conservation Centre
- (ii) Welcome Arch
- (iii) Parking area
- (iv) Nature trail
- (v) Children Park
- (vi) Watch Tower
- (vii) Watch Deck
- (viii) Approach Road
- (ix) Murals and Sign Boards

- (x) Open amphitheatre
- (xi) Food courts
- (xii) Conference Hall
- (xiii) Veterinary Unit inside the sanctuary

3.10 Administrative Setup:

The sanctuary is under the administrative control of Tiruppur Forest Division. Nanjarayan Bird Sanctuary is under the charge of Tiruppur Forest Range. The Forest Range Officer and Tiruppur North Section Forester in Tiruppur Forest Range also oversee the Nanjarayan Bird Sanctuary. So far, no exclusive Forest Guard, Watcher, and Anti-poaching watcher have been allotted for the sanctuary.

3.11 Communication:

No equipment has been provided for communication within the sanctuary. The staff use only mobile phones for their communication needs.

3.12 Summary of threats to wildlife:

- Invasion of African catfish poses a stiff threat to the available local fish population. At present situation, this invasive species has almost completely removed all the native fish species of the tank.
- Prosopis and Ipomoea invasion into the sanctuary pose a great threat.
- Discharge of sewage and effluents in the Nallaru river poses a great threat to the health of the habitats and Wildlife of the sanctuary.

CHAPTER IV

THE PROTECTED AREA AND THE INTERFACED LAND USE SITUATION

4.1 The existing situation in the Zone of Influence:

The Zone of Influence of Nanjarayan Bird Sanctuary is shown in Map 8.

4.1.1 The Location, extent, boundaries, and natural attributes of ZI:

Nanjarayan Bird Sanctuary is situated in Tiruppur District, Uthukuli, and Tiruppur North Taluks. It spreads over an area of 310 Acres. Originally, it was an irrigation tank managed by the PWD Department. However, due to the excess discharge of sewage water and effluents, the quality of water became unsuitable for any domestic purposes. A decade ago, people stopped using the water of this tank for agriculture purposes. It is believed that the Nanjarayan Tank belongs to Lord Sukreshwara, whose temple is located around 500 meters from the tank. The tank is located at 11°08'50.00"N Latitude and 77°22'59.00"E Longitude.

- North** : Starting from Tri- junction of Village No.7 Mannarai and Village No. 3 Neruperichal of Tiruppur - North Taluk and Village No. 37. Sarkar Periyapalayam of Uthukuli Taluk, then run towards East along the Southern side of Survey Field Numbers 458, 457, 456, 448 and 447 of Village No.3. Neruperichal Village then run towards north along Eastern side of Survey Field Numbers 445, 444, 451 and 462 of Village No.3. Neruperichal Village then run towards East along Southern side of Survey Field Numbers 442, 441 and 440 of Village No.3 Neruperichal Village and run towards South along the Western side Survey Field Numbers 437,436 and 433 of Village No.3 Neruperchal Village.
- East** : Then the Boundary runs generally towards South and the along Western side Survey Field Numbers 123,122,121 and 39 of Village No.37. Sarkar Periyapalayam
- South** : Then the Boundary runs towards West along with Northern side of Survey Field Numbers 38, 36, 35, 31, 30, 21, 20, 19, 18, 17 and 16 of Village No.37 Sarkar Periyapalayam
- West** : Then the Boundary runs generally towards North along with Eastern side of Survey Field Numbers 9, 5, 4, 3 and 2 of Village No.37 Sarkar Periyapalayam and Survey Field Numbers 2, 1 and 13 of Village No.7. Mannarai Village boundary and joins the starting point.

4.1.2 Villages inside and outside the Protected Area, Ethnic identities, traditions, customs, relationships between distinct groups of people, relationship with forests:

The Nanjarayan Bird Sanctuary is surrounded by three revenue villages, namely Mannari, Neruperichal of Tiruppur North Taluk, and Sarkar Periyapalayam of Uthukuli Taluk. There are two hamlets situated very close to the Bird Sanctuary, namely Nanjarayan Nagar of Neruperichal Village and Kulathupalayam of Mannari Village. The GPS location details of the villages are shown in Table 4.

4.1.3 The state of the people's economy, vocations, land use, use of forest and non-forest based natural resources by people, and seasonal patterns:

All three villages, namely Mannari, Neruperichal, and Sarkar Periyapalayam, are situated in the outskirts of Tiruppur City. Hence, the major population of these villages is employed in the Textiles Industries of Tiruppur City, though a considerable population is engaged in agriculture. Most of them are marginal farmers and small farmers. The population details of the villages by gender and land use details are shown in Tables 5 and 6.

According to the 2011 population census, among the three villages, Neruperichal has the highest population of 27,129, followed by Mannari (8,797) and Sarkar Periyapalayam (2,977). Sarkar Periyapalayam has the highest sex ratio of 1011 women for 1000 men. Mannari Village has the highest number of below poverty level households (303) among the three villages. Though Sarkar Periyapalayam Village has more number of BPL households, it stands top in literacy rate with 77.1%, followed by Neruperichal Village (72.5%) and Mannarai Village (71.8%).

In direct proportion to the population, Neruperichal village has a large geographical area of 1967.25 Ha, followed by Mannari (830.62 Ha) and Sarkar Periyapalayam (526.07 Ha). Among these three villages, Neruperichal has the highest extent of area and percentage of area under agriculture, respectively 1754.75 Ha & 89% of the total geographical area. Though Neruperichal and Mannari villages have a higher extent of area under agriculture (1754.75 Ha & 530.60 Ha) than Sarkar Periyapalayam (477.42 Ha), Sarkar Periyapalayam has a higher percentage of area under agriculture (90%) compared to Neruperichal Village and Mannari Village.

As the majority of farmers are cultivating crops for only one season of the year, a considerable cultivable land is kept fallow. Also, most of the agricultural land is under rainfed irrigation, hence almost no cash crop is cultivated in these areas and no intensive agriculture

is practiced. This results in very minimal use of inorganic fertilizers and pesticides. Though the major portion of the land available in these villages is under agriculture, most of it is kept fallow.

4.1.4 Implications of the land use and resource dependency for the conservation of PA:

Most of the people living around the sanctuary are employed in the textile industries of Tirupur. Therefore, people's dependency on Nanjarayan tank is minimal. However, a small number of people have the habit of fishing in the tank during their holidays. Farmers living around the bird Sanctuary do not depend on the tank for any kind of irrigation, as the tank water does not suit any domestic purposes due to its higher level of dissolved salts. The majority of farmers living around the sanctuary area are marginal farmers with 2 – 5 Ha of land. Predominantly, the farmers living around the sanctuary cultivate rainfed agricultural crops, such as Sorgham, Horsegram, and cowpea. Sorgham is the major crop cultivated in the surroundings of Nanjarayan Tank.

Approach roads to PA:

Koolipalayam 4 road to Uthukuli road directly reaches the bird Sanctuary. These are two kucha roads that run East to West parallelly on the North & East sides of the Bird Sanctuary.

4.1.5 Forest/PA management practices and their implications for people:

As the Nanjarayan Bird Sanctuary is a newly formed bird sanctuary, no management practices were followed in the past.

4.2 The development programs and conservation issues:

4.2.1 An evaluation of Government and Non-government agency programs for development. Implications for the PA, people, and the Zone of Influence:

A Sewage Treatment Plant (STP) was constructed on the banks of Nanjarayan Tank by Tiruppur Corporation to treat the polluted Nallaru river water. A baby canal was constructed along the south side bund of the tank, through which untreated water is brought to the STP. After treatment, the treated water is again released into the baby canal. However, the STP is not functioning at present due to lack of maintenance.



4.2.2 The interplay of market forces and their impact on the subsistence economy of the local people:

For the last few years, textile industries of Tirupur have been facing an unprecedented downturn in production and business, leading to job layoffs and unemployment. People living around Nanjarayan Bird Sanctuary are also facing this situation. During their jobless days, local people resort to fishing in the tank.

Until last year, PWD allowed fishing in this tank through auction. The practice has been stopped since June 2023 as the tank has been announced as a Bird Sanctuary. However, people who are habituated to fishing continue to do so illegally. This issue needs to be addressed.

4.2.3 A summary of problems faced by people that affect the management of the Protected Area & the Zone of Influence:

The Nallaru river, the primary water source of the tank, runs through the industrial hotspots of Tiruppur city and discharges into the Nanjarayan Bird Sanctuary. During its journey, the river gets polluted with sewage and industrial effluents. This causes elevated level of Total Dissolved Salt (TDS) content and Chemical Oxygen Demand (COD) in the water.

Frequent market fluctuations affect the economy of local people and increase their demand on Nanjarayan Tank.

Due to lack of awareness about the importance of Bird Sanctuary people living in the surrounding areas used to dump garbage in Sanctuary area.



PART II
PROPOSED MANAGEMENT

CHAPTER – V
VISION, OBJECTIVES, ISSUES AND PROBLEMS

5.1 The Vision:

The vision is to protect, restore, and conserve Nanjarayan wetland for the twin cause of biodiversity conservation and societal well-being. The objective is to restore, develop, and manage the Nanjarayan Bird Sanctuary as a critical breeding habitat for a large number of wetland birds of India. Additionally, it aims to provide opportunities for local people, naturalists, and visitors from other parts of the state and country to appreciate and learn about nature and its components.

5.2 Objectives of Management:

i) Consolidation:

- Final notification under Section 26A of the Wildlife Protection Act 1972.
- Demarcation of Boundary.

ii) Biodiversity conservation:

Improving roosting and nesting cover/feed species.

Creating snags, which are dead or partially dead standing trees providing benefits to various wildlife such as cavities for nesting and resting, perches for hunting and displaying, and an abundant supply of food for insect eaters.

Improving the habitat by clearing invasive species.

Invasive species are non-native plants and animals that harm the local ecosystem, outcompeting and dislodging native species. Minimizing soil disturbance in maintenance activities and promoting the establishment of a healthy plant community. Limiting the movement of weed-infested soil as a best management practice.

- Resource protection.
- Eco-development activities in villages abutting Protected Areas.
- Ecotourism.

iii) Tree Planting Outside of PA:

Encouraging tree cultivation in private land around the sanctuary, especially on fallow land owned by small farmers. Emphasizing the need for conserving threatened species outside protected areas, where most plant diversity occurs.

iv) Supporting activities:

- Research and technology development.
- Capacity building (of TNFD staff).
- Enhanced outreach and environmental education.
- Monitoring, evaluation, GIS, and data management.
- Infrastructure development.

In addition to preserving and promoting the biodiversity of the Nanjarayan Bird Sanctuary, there are several ancillary works such as Visitor Facilities, Interpretive Signage, Ecological Restoration, Water Management, Conservation Research, Community Engagement, Sustainable Tourism, Collaborations and Partnerships, Awareness Programs can be undertaken to enhance the overall experience for visitors and improve the habitat for the avian residents

5.3 Problems in achieving objectives:

- Poor staff strength: Patrolling of the sanctuary and anti-poaching surveillance are significant problems that need to be rectified with the appointment of exclusive Forest Guards, Watchers, and Anti-poaching watchers for better protection.
- Lack of trained staff: The technical staff post is not sanctioned, which will lead to low quality and effectiveness of maintenance.

CHAPTER VI
THE STRATEGIES

6.1 Boundaries:

- North** : Starting from Tri- junction of Village No.7 Mannarai and Village No. 3 Neruperichal of Tiruppur - North Taluk and Village No. 37. Sarkar Periyapalayam of Uthukuli Taluk, then run towards East along the Southern side of Survey Field Numbers 458, 457, 456, 448 and 447 of Village No.3. Neruperichal Village then run towards north along Eastern side of Survey Field Numbers 445, 444, 451 and 462 of Village No.3. Neruperichal Village then run towards East along Southern side of Survey Field Numbers 442, 441 and 440 of Village No.3 Neruperichal Village and run towards South along the Western side Survey Field Numbers 437,436 and 433 of Village No.3 Neruperchal Village.
- East** : Then the Boundary runs generally towards South and the along Western side Survey Field Numbers 123,122,121 and 39 of Village No.37. Sarkar Periyapalayam
- South** : Then the Boundary runs towards West along with Northern side of Survey Field Numbers 38, 36, 35, 31, 30, 21, 20, 19, 18, 17 and 16 of Village No.37 Sarkar Periyapalayam
- West** : Then the Boundary runs generally towards North along with Eastern side of Survey Field Numbers 9, 5, 4, 3 and 2 of Village No.37 Sarkar Periyapalayam and Survey Field Numbers 2, 1 and 13 of Village No.7. Mannarai Village boundary and joins the starting point

The Sarkar Periyapalayam Tank (Nanjarayan Tank) is located around 11° 08' 05" N and 77° 22' 59" E is a large wetland situated along the north - eastern region of Uthukuli and Tiruppur North Taluks of Tiruppur district in Tamil Nadu.

6.2 Zonation:

Core Zone: The water spreading area of the sanctuary and the area covered under vegetation form the core zone. It encompasses an area of 112.26 Ha, including bunds and adjoining areas of the Tank.

Buffer zone: The outer peripheral area of the northern boundary of the tank falls into the buffer zone. It encompasses an area of 13.6 Ha, including bunds and adjoining areas of the Tank.

Tourism zone: It covers almost the entire area of the buffer zone. It includes the entrance near the eastern entrance up to the rest shed and the entire length of the tank bund.

6.3 Zone Plans:

- i. **Core zone:** As it is a water spread area, a lot of avian activity is noticed in this zone. Any anthropogenic pressure and other threats should be eliminated from this zone.
- ii. **Buffer zone:** Outer peripheral areas mainly consist of agricultural fields and the eco-tourism zone.

Eco Sensitive Zone:

As the Nanjarayan Bird Sanctuary has not been notified under section 26 (A) of the Wildlife (Protection) Act, 1972 till date, the eco-sensitive zone can be determined with the concurrence of the District Collector after its notification under the act.

6.4 Theme Plans:

Core Zone:

- 1) Conservation of Avian fauna present in the Core Zone by ensuring the highest level of protection.
- 2) Enhancing the nesting and feeding of Avian fauna by implementing various management practices.
- 3) Replacing the invasive *Prosopis juliflora* in a gradual manner by introducing native species like *Acacia* sp.

Buffer Zone:

- 1) Monitoring and regulating human activities such as eco-tourism and other activities.
- 2) Developing infrastructure facilities to enhance eco-tourism and research in the bird sanctuary.

CHAPTER – VII

ECOTOURISM, INTERPRETATION AND CONSERVATION EDUCATION

7.1 General

The International Ecotourism Society (1991), the world's largest and oldest ecotourism organization established in 1990, defines ecotourism as: 'Responsible travel to natural areas that conserves the environment and improves the welfare of local people.' The key components of ecotourism are considered to be as follows (Wood, 2002):

- ❖ Contributes to the conservation of biodiversity.
- ❖ Sustains the well-being of local people.
- ❖ Includes an interpretation/learning experience.
- ❖ Involves responsible action on the part of tourists and the tourism industry.
- ❖ Is delivered primarily to small groups by trained guides.
- ❖ Requires the lowest possible consumption of non-renewable resources.
- ❖ Stresses local participation, ownership, and business opportunities, particularly for rural people.

7.2 Objectives

- ❖ Developing eco-tourism for recreation, education, and scientific exploration.
- ❖ Providing a wilderness experience to genuine enthusiasts in particular and to the public in general.
- ❖ Educating the people, especially those living nearby the sanctuary areas, about the need to maintain such a sanctuary and thereby enlisting their cooperation.
- ❖ Creating passion and love for all types of life forms like birds and plants, to create awareness about interlinkages in the food chain and food web, and to inculcate the idea of conservation of biodiversity in the minds of the public in general and children in particular.

7.3 Issues and Problems

- i. Basic infrastructure facilities have to be developed for ecotourism.
- ii. Eco guides, anti-poaching watchers have to be appointed for ecotourism development.
- iii. The periphery of the sanctuary has to be fenced to enhance protection.

7.4 The Strategies:

7.4.1 Identification of the Zone

1) Involvement of the Local Communities in the existing activities and the Socio-Economic Benefits derived by them from such involvement

Eco-Tourism Committees (ETC) will be formed for the people of adjoining villages of Nanjarayan Bird Sanctuary. The funds generated from such an ecotourism programme will be utilized to provide socio-economic upliftment of the local communities by creating community assets and facilities and by providing microfinance for individuals and group entrepreneurship programs. The Eco-tourism Committees will be modelled on the EDC/JFM guidelines of Tamilnadu with a General body and Executive Body for administrating the ETC in a transparent manner.

A multipronged approach will be kept in employing all suitable New Eco-Tourism Activities and in improving and augmenting the existing activities. These will include Eco Cycle Ride/Bird Watching/Trekking/Visiting Interpretation Centre/Film Show/Night Camping using Tents, Medicinal Area Trekking Routes, Boat Cafeteria, Visitors Eco-Friendly Shelters, Eco-Shops, etc. These components will be suitably tailored into the eco-tourism activity in Nanjarayan Bird Sanctuary, which will be managed by the ETC members.

Publicity, Eco-Awareness, and Nature Camps Among the various management activities, eco-awareness programs on various themes for various stakeholders would be a crucial management step for the conservation of the Nanjarayan Bird Sanctuary. The stakeholders include the various line departments and agencies, educational and research institutes, local population, tourists, and NGOs. Separate and laterally combined eco-awareness programs and nature camps for each of them will be conducted to evolve and promote better management strategies for the sanctuary.

7.4.2 Infrastructure development

Infrastructure facilities to be developed in Nanjarayan Bird Sanctuary.

(i) Wildlife Conservation Centre

An Interpretation center at the banks of the Nanjarayan Lake to be initiated to serve as an educative center for the students, naturalists, and the general public who visit the Lake. Details about the birds and photographs can be displayed in the center to provide first-hand information to the visitors.

(ii) Welcome Arch

Entrance arches play a significant role in shaping the visitor's first impression and setting the tone for their experience at an ecotourism place. They combine functional and

aesthetic aspects to create a memorable and engaging entry point that contributes to the overall attractiveness and appeal of the destination.

(iii) Parking area

A parking area facility will be created in Nanjarayan Bird Sanctuary as it is an essential facility that provides visitors with a designated space to park their vehicles while they explore the destination. Proper planning and management of the parking area are crucial to ensure a positive visitor experience and minimize congestion or inconvenience.

(iv) Nature trail

To preserve the ecological integrity of the Lake, it is necessary to restrict the movement of visitors into ecologically-sensitive zones. However, planned, non-intrusive human interfaces are also required for creating a relationship with this environment and for appreciating and conserving it. Hence, nature trails must be planned in a network of paths and loops which allow for thematic walks to be conducted. The trail may be made of gravel laid along the entire boundary of the wetland, at varying distances from the water body, including close approaches in a few areas. This trail will enhance the experience and education value for visitors and target audiences. The trail will also help the forest officials and staff for investigation and patrolling duties. Signages, stone benches, and stone artworks may be created and installed along the trail for better understanding and appreciation by the visitors/tourists.

(v) Watch Tower

Watchtowers are to be installed in three places around the Nanjarayan Lake to enable bird watchers and researchers to watch the birds with ease. The watchtowers are to be built with concrete pillars or steel pillars, a cabin at the top with iron ladders/stairs for climbing.

(vi) Watch Deck

A couple of watching points or projected galleries can be placed to enable the public to watch the birds comfortably.

7.4.3 Regulations, Monitoring, and Evaluation

The following practices will be incorporated for effective monitoring and evaluation of the eco-tourism activities:

Baseline Assessment: Conducting a thorough baseline assessment of the bird sanctuary before introducing eco-tourism activities, including assessing the bird population, their habitats, existing threats, and the level of existing tourism activities, if any.

Identify Key Indicators: Determining key indicators that will be used to measure the impact of eco-tourism activities. These indicators will include bird population trends, changes in habitat, visitor numbers, waste generation, and local community involvement.

Visitor Management: Implementing a visitor management system to control the number of visitors and their activities within the sanctuary. This could involve setting daily or seasonal visitor limits, designated trails, and codes of conduct for visitors.

Monitoring Bird Behavior: Monitoring bird behavior and breeding patterns to assess if eco-tourism activities are causing any disturbances to the bird population.

Stakeholder Engagement: Involving local communities and stakeholders in the monitoring and evaluation process. Their inputs and observations will be valuable in assessing the impact of eco-tourism activities on their livelihoods and the environment.

Regular Surveys: Conduct regular surveys to gather feedback from visitors about their experiences and to identify areas of improvement.

Review and Adapt: Monitoring data and visitor feedback will be reviewed consistently to adapt and improve eco-tourism practices as needed.

Periodic Impact Assessments: Periodic environmental impact assessments will be conducted to evaluate the overall ecological impact of eco-tourism activities on the bird sanctuary.

CHAPTER – VIII

ECODEVELOPMENT

8.1 Objectives:

Protected areas, such as bird sanctuaries, play a crucial role in conserving ecosystems and protecting biodiversity. However, conflicts between local people and the forest department often arise when the objectives of conservation and the needs of the local community appear to be at odds with each other. To address these conflicts and garner support from local people in conserving the ecosystem, it is essential to focus on eco-development programs and adopt various techniques to foster cooperation and understanding.

1. To gain utmost cooperation from local people for the conservation and management of the bird sanctuary.
2. To educate the local people about the importance of bird conservation to render their support in management activities.
3. To successfully eliminate the threats that are challenging the conservation and management of the bird sanctuary.

8.2 Specific issues:

Nanjarayan bird sanctuary is surrounded by Mannarai, Nerupperichal, and Sarkar Periyapalayam villages of Tiruppur district. However, Nanjarayan Nagar hamlet of Nerupperichal village and Kulathupalayam hamlet of Sarkar Periyapalayam village are situated in close proximity to the sanctuary. People of Nanjarayan Nagar and Kulathupalayam depend more on the Nanjarayan Bird sanctuary in their day-to-day activities due to their geographical proximity to the sanctuary. Apart from these two hamlets, a few other people from the above three villages also utilize the natural resources of the tank for various purposes.

1. Illegal fishing: Until June 2023, commercial fishing was allowed in the tank by the Public Welfare Department through auction. The contract for fishing was terminated since the Nanjarayan tank was declared a bird sanctuary in 2022. However, the local people are reluctant to stop fishing in the tank.



2. Grazing inside the sanctuary: Grazing by local people inside the sanctuary is very minimal. However, a small number of people use the sanctuary area as a grazing ground for their cattle.

3. Invasion of alien plant species viz., *Prosopis juliflora* and *Eichhornia*: The presence of *Prosopis juliflora* and *Eichhornia* is a serious threat to the biodiversity of the sanctuary. Moreover, *Prosopis* trees are a serious threat to the growth of *Acacia* trees (*Acacia nilotica* and *Acacia planifrons*), which are best for the nesting of water birds like Pelicans, Cormorants, and Painted-Storks, etc.

4. Dumping of garbage in the sanctuary area: Nanjarayan tank is situated on the outskirts of Tiruppur city. Some mischievous persons from adjacent areas use the sanctuary area to dump the domestic garbage of their households.

8.3 Broad strategies:

Eco-Development Programs: Implementing eco-development programs within and around the protected area is a key strategy. These programs aim to improve the livelihoods of local communities while ensuring the sustainable use of natural resources. By providing alternative sources of income, such as eco-tourism, sustainable agricultural practices, or skill development initiatives, local people can benefit economically without resorting to activities that harm the sanctuary's conservation efforts.

Community Engagement and Education: Educating local communities about the significance of conserving birds and their habitats is vital. Raising awareness about the ecological importance of the sanctuary, the role of birds in maintaining ecosystem balance, and how local people can actively participate in management activities can foster a sense of ownership and responsibility among them. Workshops, awareness campaigns, and interactive sessions can be organized to promote understanding and cooperation.

Inclusive Decision-Making: Involving local communities in the decision-making process related to conservation and management is crucial. By including them in discussions and planning, their concerns and perspectives can be taken into account, reducing the likelihood of conflicts arising from decisions imposed without considering their needs and aspirations.

Monitoring and Enforcement: Regular monitoring of the sanctuary's ecological health and enforcing regulations are essential for successful conservation. Effective enforcement discourages illegal activities and reinforces the importance of adhering to conservation guidelines.

Benefits Sharing: Creating mechanisms for sharing the benefits of conservation efforts with local communities can strengthen their support. For instance, one third part of the revenue generated from eco-tourism activities can be reinvested in local development projects or community welfare programs.

8.4 Village Level Site Specific Strategies:

Development of Eco Development Committees in Nerupperichal and Sarcar Periyapalayam villages:

Eco Development Committees must be formed in adjacent villages to ensure the participation of local people in the conservation and management of the sanctuary. Two Eco Development committees will be formed in Nerupperichal and Sarcar Periyapalayam villages. Villagers will be enrolled as members of the Eco Development Committee, and management decisions of the sanctuary will be taken by passing resolutions in the Eco Development Committees.

Appointing Eco-guides from local villages:

People from fringe villages will be trained and engaged as Eco-Guides in the sanctuary. Eco-guides will be appointed to educate and guide the visitors of the bird sanctuary. Training programs will be conducted for the educated youth of the fringe villages to transform them into Eco-Guides.

Benefits sharing:

Eco-tourism activities in the Bird Sanctuary will be carried out by employing local people through Eco Development Committees. This can provide livelihood opportunities to them, which may relieve them from their dependency on exploiting the resources of the sanctuary for their sustenance.

Appointing Anti-Poaching Watchers and Protection Watchers from local villages:

Engaging local people in protection activities will be a great strategy to ensure the highest level of protection. Local villagers might have better knowledge about the terrain, wildlife habitat, and history of the sanctuary. Their knowledge can be utilized in the conservation aspect by employing them as Anti-Poaching Watchers and Protection Watchers.

8.5 Monitoring and Evaluation:

Mere initiation of Eco Development works will not give the expected changes, but continuous monitoring and evaluation and intermediary interferences will ensure that the work is progressing towards the planned goal. Hence, Eco development programs will be continuously monitored and evaluated through the following measures:

- Conducting Eco Development Committee meetings at regular intervals.
- Maintaining proper records and periodicals for Eco Development Committees.
- Obtaining feedback from visitors of the sanctuary.

CHAPTER IX

RESEARCH AND MONITORING AND TRAINING

9.1 Research and Monitoring:

There is a complete absence of departmental research on visiting birds. Higher-order investigations can be developed through consultancy programs with universities, specialist institutions, and through contractual arrangements. A portion of the land may be utilized to study population dynamics, seasonal migration, and also biodiversity, etc. The documentation of all their processes is a must.

Prioritization of Research:

At present, the research component in Nanjarayan Bird Sanctuary is rather scant. To evolve as a pioneering centre for research on wetlands, the following themes and topics are being suggested to be taken as research studies. It is also realized that this requires the appointment of in-house researchers, especially in biology and ecology.

- 1) Bird migration study
- 2) Breeding biology of migratory and resident birds
- 3) Habitat utilization pattern of birds
- 4) Interaction with agroecosystems for feeding and nesting
- 5) Impact of fertilizers and pesticides on birds.

Conducting studies on potential of Nanjarayan Tank to become a Ramsar site:

The Nanjarayan Tank holds significant potential to be designated as a Ramsar site. With its expansive area, diverse avian population, and vital role in supporting both native and migratory birds, it fulfills several criteria outlined by the Ramsar Convention on Wetlands. Its importance in water management and ecological conservation further strengthens its case for Ramsar status. The recognition as a Ramsar site would contribute to its conservation and enhance international awareness of its ecological value. Required actions will be taken in the near future to make Nanjarayan Tank a Wetland of international importance.

Integration of wetlands within the landscape matrix:

Often, studies of habitats have focused only on the individual habitat type. Further, information regarding the differential use of wetland types by wetland-dependent species is lacking. Little attempt has been made to determine how the combination of various wetland or habitat types affects their respective uses by wildlife.

9.2 Monitoring:

Regional and national monitoring of populations:

Breeding locations of most waterfowl have to be identified as part of the regular inventory. Inventories should be supported to determine water-bird status in critical wetlands, especially for little-studied species.

Fragmentation effects:

Research is required to investigate how changing sizes and patterns of distinct wetlands affect their use by a variety of wetland birds.

Direct intervention:

An intervention that is proposed could be the development and installation of floating islands and man-made perches within the wetland, which would effectively ensure against hydrological limitations.

Intervention to improve the availability of all forms of food:

- Introduction of fingerlings to increase fish population in order to increase food for all birds.
- Artificial planting and management of aquatic plants, which is highly preferred by fishes and water birds.
- Introduction of mollusca to create feed for water birds.

Monitoring and Management techniques for conservation and protection of Birds and habitat:

- Strict enforcement of law to curb all illegal activities in and around the sanctuary.
- Establishment of Nanjarayan Management Authority with the mandate of coordination, regulation, and financial management for conservation and wise use of the wetland ecosystem.
- Capacity building of government agencies and community organizations for sustainable management.
- Monitoring and evaluation of management action plan implementation.
- Educating the people about the importance of birds in ecological balance.
- Increasing the staff strength to improve protection.
- Habitat improvement techniques should be implemented.
- Continuous monitoring of birds to detect any discrepancies.

Monitoring and Management of water catchment areas and the channels:

Desilting of the tank to enhance water storage capacity: Considering the high cost of desilting and problems associated with the disposal of large amounts of silt, partial desilting is suggested, which would help to restore the original storage. Partial desilting can be done around the periphery of the tank in the water spread area.

Maintenance of feeder channels: Degradation of the feeder channel contributes to enhanced soil erosion and reduction of inflow into the wetland. Hence, it is imperative to undertake measures for the conservation of the feeder channel, which brings water from the catchment area to ensure the regulation of flow regimes and maintenance of the hydrological functions of the wetland system. Improving the quality of water within the wetland is an important issue for Nanjarayan Bird Sanctuary.

Monitoring and Management of seasonal flooded areas: Flooding during the nesting season must be avoided, or else birds nesting on the ground or even over water may be flooded out. For that elevated bunds inside the water spread area to be created.

9.3 Training:

9.3.1 On-the-job training

Advanced training is required to understand the ecological processes in wetlands and to grasp the significance of wetland complexes over a larger landscape. Geographic Information Systems can be used as vital tools for managers to learn the basics of ecosystem and landscape management.

The following capacity-building training is required:

- Annual refresher course on census for frontline staff.
- Annual refresher course on wildlife management.
- Wildlife Management training for interested frontline staff through institutions like the Wildlife Institute of India, BNHS, etc.
- Study and exposure visit for frontline staff and wildlife managers.
- Preparation and supply of a bird and vegetation identification book for this sanctuary.

Environmental Education:

If a full-time biologist is posted, environmental education can be delivered to school and college students visiting the sanctuary.

Training calendar for the year:

Currently, there is no staff in the sanctuary with training in wildlife management. Providing training to the staff would improve their efficiency and enable them to offer proper information and guidance to the public. Short-term training programs can be organized for the staff. The following capacity-building training is required:

- Annual refresher course on census for frontline staff.
- Annual refresher course on wildlife management, GIS, and land use mapping and planning.
- Wildlife Management training for interested frontline staff through the Wildlife Institute of India, BNHS, etc.
- Study and exposure visit for frontline staff and wildlife managers.

9.3.2 Formal training courses: Publicity, Eco-awareness, and Nature Camps

To spread the message of wildlife conservation, publicity materials such as brochures and handbills should be prepared and distributed freely among tourists, the general public, school children, and the people in surrounding villages to create awareness regarding the importance of conserving wildlife. Awareness camps and nature camps are often conducted in this sanctuary. These camps will focus on bird identification and biology, the importance of wetland conservation, the benefits of nature, and the significance of nature conservation. Resource persons from local colleges, especially those in the field of biosciences, will be identified for this purpose.

9.3.3 Establishing a Learning Centre:

A newly constructed interpretation centre will meet the needs, but enrichment of the interpretation centre should be carried out to educate the visiting public.

Learning Gardens: Currently, no separate learning garden is available. However, if the trees and plants present in the sanctuary are properly labeled, they can serve as a learning garden.

Nature Trails / Walk-throughs:

The 4 km long tank bund with vegetation on both sides serves as a nature trail / walk-through of the sanctuary. Efforts will be made to lay paver blocks wherever necessary.

Eco-Guides:

Currently, no eco-guides are available in this sanctuary. However, eco-guides will be trained and deployed during this plan period.

Water level control:

If dams are in use, flooding during the nesting season must be avoided, as it can negatively impact birds nesting on the ground or over water.

Control of pesticide use:

Pesticides in wetlands have been known to be lethal. Organochlorine pesticides are known to reduce productivity in birds, including Waterfowl, Terns, Gulls, and Herons, or indirectly affect their behavior. Pesticides may also cause pathological conditions in wildlife. Chemicals can kill the birds that act as natural insect controls and also kill the insects themselves, reducing the control factor and hastening an outbreak of insects that multiply much faster than the controls.

Regulation of human disturbance:

As recreational activities increase, human disturbance also increases, which can exert a tremendous influence on some wetland species that require undisturbed habitat for nesting. Uncontrolled livestock grazing could trample nests and alter vegetation.

Public awareness concerning wetlands:

The public must develop an appreciation for wetlands and recognize the many ecological, recreational, aesthetic, and public ecosystem service values they provide. Teaching wetland ecology should be included in the school curriculum and part of the outreach efforts of every scientist and landscape manager. Training workshops for wetland biologists and managers should be expanded and include the private sector operating in the vicinity of the sanctuary. Aquaculturists and rice farmers should also be included in the educational process.

Ecological assistance:

Assistance in ecological planning for wetland restoration or alteration needs to be institutionalized. As part of the process, regulatory personnel in state governments should consult with professional wetland scientists before embarking on large-scale wetland projects such as the construction of reservoirs, aquaculture facilities, or irrigation systems.

CHAPTER – X
ORGANIZATION AND ADMINISTRATION

10.1 Structure and Responsibilities:

The Nanjarayan Bird Sanctuary is under the administrative control of the Deputy Director, Anaimalai Tiger Reserve, Tiruppur Forest Division. The Forest Range Officer and the Forester of Tiruppur North Taluk, responsible for Nanjarayan Birds Sanctuary in Tiruppur Forest Range, also oversee the works of Nanjarayan Bird Sanctuary. (Table 9 & 10)

10.2 Staff Amenities – Nil

Administrative Block: An administrative building is essential in a bird sanctuary to effectively manage and facilitate various conservation and administrative functions. An administrative building serves as the nerve center of the bird sanctuary's operations. It provides a central location for staff members, authorities, and conservationists to coordinate and communicate efficiently. It provides a conducive environment for staff to plan, strategize, and execute conservation activities effectively. Hence, an administrative block need to be constructed in Nanjarayan Bird Sanctuary.

Staff Quarters: Developing staff quarters within the bird sanctuary is crucial to ensure the effective management, conservation, and protection of the sanctuary's rich biodiversity. Having dedicated on-site accommodation for the staff will offer several key advantages. It will enhance the round-the-clock presence of trained personnel, enabling swift responses to potential threats, emergencies, or any illegal activities, thus bolstering the sanctuary's security measures.

staff quarters will reduce the travel time and logistical challenges faced by the personnel, as they would no longer need to commute from distant locations. This will lead to increased operational efficiency and better utilization of time and resources, allowing the staff to focus more on essential conservation tasks. The development of staff quarters in the bird sanctuary is an indispensable step towards reinforcing its conservation efforts, promoting effective management, and ensuring the long-term sustainability of this invaluable natural habitat for both wildlife and future generations.

CHAPTER – XI

**Planned Budget for Nanjarayan Bird Sanctuary for the year 2022-23 to 2026-2027
Tiruppur Forest Division, Anamalai Tiger Reserve, Udumalpet.**

S. No	Description of Works	Unit.	Qty.	Unit Rate (Rs. in Lakhs)	Financial (Rs.in lakhs)										Total Amt
					2022-23		2023-24		2024-25		2025-26		2026-27		
					Phy.	Amt	Phy.	Amt	Phy.	Amt	Phy.	Amt	Phy	Amt	
I	Survey and Demarcation														
1	Conducting survey and demarcation of the notified Sanctuary Area	No	1 No	0.50			1 No	0.50							0.50
2	Drone based Digital Survey for contour mapping and other planning purpose.	No	1 No	2.50			1 No	2.50							2.50
3	Fixation of boundary stones	LS	LS	2.00			LS	2.00							2.00
II	Preparation of Detailed Project Report (DPR) using the services of resource organizations														
1	Preparing Detailed Project Report (DPR) by engaging resource persons / organization	No.	1 No.	10.00	1 Nos.	10.00		0.00		0.00		0.00		0.00	10.00
III	Formation of Eco-Development Committee (EDC) and other allied activities														
1	conducting Participatory rural appraisal (PRA) exercise for active involvement of local communities in surrounding villages.	Nos.	2 Nos.	2.50			2 Nos.	5.00		0.00		0.00		0.00	5.00
IV.	Entry Point Activities														
1	Provision for incentives to the local communities by providing the revolving funds	LS	LS	4.50			LS	4.50							4.50

V. Management and Education activities																
	1	Providing Nature education and awareness programmes for students / publics and other stakeholders.	No.	25 Nos.	0.15	5	0.75	5	0.75	5	0.75	5	0.75	5	0.75	3.75
	2	Capacity building and management training for department staff, members of the Eco Development Committee on Sustainable Management of the Nanjarayan Tank	LS	LS	0.25	2	0.50	2	0.50	3	0.75	3	0.75	2	0.50	3.00
VI Preparation of Management Plan for Nanjarayan Bird Sanctuary, Tiruppur																
	1	Preperation of Management Plan as per the Guidelines	LS	LS	2.50			LS	2.50							2.50
VII Human Resource Management																
	1	Provision for Engaging the Protection Watchers for safeguarding birds, infrastructure and lake	MD	4 Nos.	475.75/ MD	400	1.903	1200	6.00	1200	6.294	1200	6.608	1200	6.96	27.76
	2	Provision for Engaging Eco Sanitary watcher	MD	2 Nos.	475.75/ MD			600	3.00	600	3.147	600	3.304	600	3.468	12.91
	3	Provision for Engaging Eco-guide	MD	2 Nos.	475.75/ per day / MD							600	3.304	600	3.468	6.77
	4	Provision for Engaging Receptionist at the Conservation Centre	MD	1 No	475.75/ per day / MD							300	1.652	300	1.734	3.38
VIII Integrated lake protection activities																
	1	Protection of Lake boundaries with fencing in the Vulnerable area.	Kms.	2 Kms	15.00					2 km	30.00					30.00

IX Afforestation Activities															
1	Phased Removal of invasive alien species such as <i>Prosopis juliflora</i> around the Nanjarayan Lake	Ha.	8	66,900/- Ha.			2	1.33	2	1.33	2	1.33	2	1.33	5.32
2	Raising of Nursery 25000 seedlings	10000 Nos.	25000	2.50			10000	2.50	10000	2.75	5000	1.51			6.76
3	Planting	Nos.		115.00			10000	11.50	10000	12.65	5000	6.95			31.10
4	1year maintenance of the planted seedlings	Nos.		77.00					10000	7.70	10000	8.57	500 0	4.7	20.97
X Promotion of community based eco- tourism															
A. Creation of Conservation Centre as a Central Complex with all basic amenities and infrastructure															
1	Construction of welcome entrance arch	LS	1 No.	10.00			1 No	10.00							10.00
2	Creation of access path for the use of the vehicle and visitors to reach the conservation centre (about 750 mtr)	Mtr	750 Mtr	25.00			LS	25.00							25.00
3	Provision for interpretation Centre with concerference hall facilities	LS	1 No.	70.00		0			1	70.00					70.00
4	Preperation and Installation of exhibits, life size models, information kiosks and others similar works in interpretation centre.	No.	LS	40.00		0			LS	40.00					40.00
5	Provision for documentation center including the mini theatre.	LS	1 No.	25.00					1	25.00					25.00
6	Provision for Rest Room Facilities for the visitors, EDC members and differently abled peoples.	Nos.	2 Nos.	10.00		0				20.00					20.00

7	Provision for ticket counter	LS	1 No.	6.00						6.00					6.00	
8	Provision for Eco-shop	LS	1 No.	10.00						10.00					10.00	
9	Provision for refreshment centre with all equipment's.	LS	1 No.	8.00						8.00					8.00	
10	Provision for Walking strips / path.	LS	10000 Sq. ft	20.00						20.00					20.00	
11	Provision for mini open air amphi theatre	LS	LS	3.00					LS	3.00					3.00	
12	Provision for creation of nature parks (by way of bambusetum, botanical garden, Butterfly Garden, Medicinal tree parks etc.), landscaping and other related gardening works in and around the conservation centre including maintenance for next 3 years	LS	LS	8.00				LS	5.00	LS	1.00	LS	1.00	LS	1.00	8.00
13	Provision for drip irrigation facilities for the above-mentioned gardens	LS	LS	4.00				LS	4.00							4.00
14	Provision for creation of parking centre in Conservation Centre	LS	LS	5.00						LS	5.00					5.00
15	Display of pictorial hoardings / boards around the lake.	Nos.	30 Nos.	0.10								15	1.50	15	1.50	3.00
B	Development of infrastructure facilities for visitors and researchers for bird sighting, census operations, mobility and other allied activities around the Nanjarayan lake.															
1	Purchase of Computers with accessories, binocular, Safety Jackets, Chairs, Teapoy, fire extinguishers, Digital board etc.	LS	LS	20.00						LS	20.00					20.00

	2	Formation of Nature Trail.	Kms.	1	3.00					1	3.00					3.00
	3	Erection of Watch Tower	No.	1 No	10.00					1	10.00					10.00
	4	Provision for Watch points / Viewing Deck / Galleries	No	4 Nos.	5.00					4	20.00					20.00
	5	Creation of board walk at appropriate place	Sq.Mtr	50 Sq.Mtr	0.20					50 mtr	10.00					10.00
	6	Infrastructure facilities at mid interval for the member of EDC and visitors including RO water facilities, First aid and other allied facilities.	LS	LS	5.00					LS	5.00					5.00
	7	Creation of bird's sculptures	LS	18 Nos.	0.50					18	9					9.00
	8	Providing seating facilities in and around the conservation centre and other areas.	Nos.	30 Nos.	0.10					30	3.00					3.00
	9	Providing rest room facilities at mid interval for the visiting tourists.	Nos.	1 No	7.00					1	7.00					7.00
	10	Bird tree house with bird blind structure for observation and monitoring.	LS	LS	10.00					LS	10.00					10.00
	11	Creation of kid zone	LS	LS	25.00					Ls	25.00					25.00
XI	Development of eco-tourism related infrastructure															
	1	Supply HDPE floating Jetty with S.S Hand Railing	LS	LS	7.50				LS	7.50						7.50
	2	Purchase of Eco-Friendly Electric Boat - Battery Operated for conducting researchers, patrolling and allied activities.	Nos.	2 Nos.	20.00		0	2	20.00							20.00

3	Supply of accessories such as IRS Approved Life Jacket, Life Bouy and Nylon / PP Rope and First Aid Box	LS	LS	0.20			LS	0.20							0.20
4	Solar light facilites for lake path way at every 100 mtrs in and around conservation centre and visitors' area.	Nos.	30 Nos.	0.60					30	18					18.00
5	Providing RO drinking water facilites	Nos.	5 No.	0.60					5	3.00					3.00
6	Providing water facilites to the infrastructure through digging borewell, pipeline and other plumping works.	Nos.	2 Nos.	7.00			1	7.00	1	7.00					14.00
7	Purchase of camper vehicle	1No.	1 No.	15.00			1	15.00							15.00
8	Providing fuel facilities for camper vehicle (150/- Litre x 25 x 60) for 5 Years	150 litres	60 mont hs	100/-			150 LS x 12 months	1.80	150 LS x 12 months	1.80	150 LS x 12 months	1.80	150 LS x 12 months	1.80	7.20
9	Purchase of Battery Car	2 Nos.	2 Nos.	10.00							2	20.00			20.00
10	Provision for coracles	2 Nos.	2 Nos.	2.00								4.00			4.00
11	Provision for Dustbin facilities in and around the lake	20 Nos.	20 Nos.	0.10								2.00			2.00
12	Provision of battery-operated tricycle for collection and disposal of soild waste.	1 No.	1 No.	1.40								1.40			1.40
13	Provision for bicycle	Nos.	10 Nos.	0.10										1	1.00
14	Setting up for video surveillence facilities	LS	LS	20.00							LS	20.00			20.00

	15	Training for boat man and coracle operators.	LS	LS	1.00			LS	1							1.00
XII	Research and Rescue Activities															
	1	Creation of Ornithological research / extension and rescue centre	LS	LS	50.00					LS	50.00					50.00
	2	Research and Publication about birds	LS	LS	0.40	LS	0.40	LS	0.40	LS	0.40	LS	0.40	LS	0.40	2.00
	3	Birds census	LS	LS	0.20		0.20		0.20		0.20		0.20		0.20	1.00
	4	Purchase of bird's rescue tools and equipments.	LS	LS	0.80						0.80					0.80
XIII	Other Contingencies		LS	LS			0.10		0.75		1.75		0.80		0.74	
Total						13.85		86.73		360.52		133.93		154.96	750.0	

**Planned budget for Nanjarayan Lake Bird Sanctuary for the year 2027-28 to 2031-2032
Tiruppur Forest Division, Anamalai Tiger Reserve, Udumalpet.**

S. No	Description of Works	Unit.	Qty.	Unit Rate (Rs. in Lakhs)	Financial (Rs.in lakhs)										Total	
					2027-28		2028-29		2029-30		2030-31		2031-32			
					Ph y.	Amt	Phy.	Amt	Phy.	Amt	Phy	Amt	Phy.	Amt		Amt
I.	Entry Point Activities															
	1	Providing vocational/ livelihood and skills training to the local communities	Nos	2	3.00	1	3.00	1	3.00							6.00
II.	Management and Education activities															
	1	Providing Nature education and awareness programmes for students / publics and other stakeholders.	No.	25 Nos.	0.15	5	0.75	5	0.75	5	0.75	5	0.75	5	0.75	3.75

III Human Resource Management																
	1	Provision for Engaging the Protection Watchers for safeguarding birds, infrastructure and lake	MD	4 Nos.	638 / MD	1200	7.65	1200	8.42	1200	9.26	1200	10.19	1200	11.21	46.74
	2	Provision for Engaging Eco Sanitary watcher	MD	2 Nos.	638 / MD	600	3.82	600	4.21	600	4.63	600	5.09	600	5.60	23.37
	3	Provision for Engaging Eco-guide	MD	2 Nos.	638 / MD	600	3.82	600	4.21	600	4.63	600	5.09	600	5.60	23.37
	4	Provision for Engaging Receptionist at the Conservation Centre	MD	1 No		300	1.91	300	2.10	300	2.31	300	2.54	300	2.80	11.69
IV Integrated lake protection activities																
	1	Maintenance of Lake boundary 6 km of Lake boundaries with fencing in the Vulnerable area.	Kms.	6 Kms	5.00	3 km	15.00	3 km	15.00							30.00
V Afforestation Activities																
	1	Phased Removal of invasive alien speices such as <i>Prosopis juliflora</i> around the Nanjarayan Lake	Ha.	10	75,000/ - Ha.	2	1.50	2	1.65	2	1.82	2	2.00	2	2.20	9.17
VI Promotion of community based eco- tourism																
	A.	Creation of Conservation Centre as a Central Complex with all basic amenities and infrastructure														
	1	Maintenance of welcome entrance arch	LS	1 No.	5.00	1	5.00									5.00
	2	Maintenance of access path for the use of the vehicle and visitors to reach the conservation centre (about 750 mtr)	Mtr	750 Mtr	15.00					LS	15.00					15.00

3	Maintenance of interpretation Centre with conference hall facilities	LS	1 No.	20.00									1	20.0	20.00
4	Maintenance of exhibits, life size models, information kiosks and others similar works in interpretation centre.	No.	LS	20.00					LS	10.00			LS	10.0	20.00
5	Maintenance of documentation center including the mini theatre.	LS	1 No.	10.00									LS	10.0	10.0
6	Maintenance of Rest Room Facilities for the visitors, EDC members and differently abled peoples.	Nos.	2 Nos.	4.00					2 Nos	4.00					4.00
7	Maintenance of Eco-shop and Ticket counter and refreshment centre	LS	3 No	6.00					3 Nos	6.00					6.00
8	Maintenance of walking strips / path.	LS	10000 Sq. ft	5.00					LS	5.00					5.00
9	Maintenance of mini open air amphi theatre	LS	LS	1.00					LS	1.00					1.00
10	Maintenance of nature parks (by way of bambusetum, botanical garden, Butterfly Garden, Medicinal tree parks etc.), landscaping and other related gardening works in and around the conservation centre including maintenance for next 3 years	LS	LS	5.00	LS	1.00	LS	1.00	LS	1.00	LS	1.00	LS	1.00	5.00
11	Maintenance of parking centre in Conservation Centre	LS	LS	1.50					LS	1.50					1.50

12	Display of pictorial hoardings / boards around the lake.	Nos.	30 Nos.	0.10							15	1.50	15	1.50	3.00
B	Development of infrastructure facilities for Staffs, visitors and researchers for bird sighting, census operations, mobility and other allied activities around the Nanjarayan lake.														
1	Construction of Administration block	No	1 No	45.00	1 No	45.00									45.00
2	Construction of staff quarters	No	3 Nos	30.00			1 No	30.00	1 No	30.00	1 No	30.00			90.00
3	Maintenance of Computers and accessories, replacement and maintenance of binocular, Safety Jackets, Chairs, Tea poy, fire extinguishers, Digital board etc.	LS	LS	5.00	LS	1.25	LS	1.25	LS	1.25	LS	1.25	LS	1.25	6.25
4	Maintenance of Nature Trail.	Kms.	1	1.00					1	1.00					1.00
5	Maintenance of Watch Tower	No.	1 No	3.00							1No	3.00			3.00
6	Maintenance of Watch points / Viewing Deck / Galleries	No	4 Nos.	0.50							4 Nos	2.00			2.00
7	Maintenance of existing board walk structure	Sq.Mtr	50 Sq.Mtr	0.10									50 mtr	5.0	5.00
8	Regular maintenance of Infrastructure facilities at mid interval for the members of EDC and visitors including RO water facilities, First aid and other allied facilities.	LS	LS	0.5	LS	0.10	LS	0.10	LS	0.10	LS	0.10	LS	0.10	0.5
9	Maintenance of bird's sculptures	LS	18 Nos.	0.10			9 Nos	0.9	9 Nos	0.9					1.80
10	Maintenance of seating facilities in and around the conservation centre and other areas.	Nos.	30 Nos.	0.03							30 Nos	0.90			0.90

	11	Maintenance of rest room facilities at mid interval for the visiting tourists.	Nos.	1 No	2.50						1	2.50			2.50	
	12	Maintenance of Bird tree house with bird blind structure for observation and monitoring.	LS	LS	2.00						LS	2.00			2.00	
	13	Maintenance of kid zone	LS	LS	3.00								LS	3.00	3.00	
VII	Development of eco-tourism related infrastructure															
	1	Regular maintenance of HDPE floating Jetty with S.S Hand Railing	LS	LS	1.00	LS	0.20	LS	0.20	LS	0.20	LS	0.20	LS	0.20	1.00
	2	Maintenance of Eco-Friendly Electric Boat - Battery Operated for conducting researchers, patrolling and allied activities.	Nos.	2 Nos.	1.50						1 No	1.50	1 No	1.50	3.00	
	3	Maintenance of Solar light facilities for lake path way at every 100 metres in and around conservation centre and visitor area.	Nos.	30 Nos.	0.10								30 Nos	3.00	3.00	
	4	Maintenance of water facilities such as pipelines, motors	LS	LS.	2.5	LS	0.5	LS	0.5	LS	0.5	LS	0.5	LS	0.5	2.50
	5	Maintenance of camper vehicle	LS	LS	0.60	LS	0.12	LS	0.12	LS	0.12	LS	0.12	LS	0.12	0.60
	6	Providing fuel facilities for camper vehicle (150/- Litre x 25 x 60) for 5 Years	150 litres	60 months	100/-	150 LS x 12 months	1.80	150 LS x 12 months	1.80	150 LS x 12 months	1.80	150 LS x 12 months	1.80	150 LS x 12 months	1.80	9.00
	7	Maintenance of Battery Car	2 Nos.	2 Nos.	2.50									2	5.00	5.00
	8	Replacement of Dustbin facilities in and around the lake	20 Nos.	20 Nos.	0.10										2.00	2.00

	9	Maintenance of battery-operated tricycle for collection and disposal of soil waste.	LS	LS	0.10	LS	0.02	LS	0.02	LS	0.02	LS	0.02	LS	0.02	0.10
	10	Provision for bicycle	Nos.	10 Nos.	0.10									10 Nos	1.00	1.00
	11	Setting up for video surveillance facilities	LS	LS	20.00							LS	20.00			20.00
	12	Training for boat man and coracle operators.	LS	LS	1.00									LS	1.00	1.00
VIII	Research and Rescue Activities															
	1	Maintenance of Ornithological research / extension and rescue centre	LS	LS	7.00			LS	4.00					LS	3.00	7.00
	2	Research and Publication about birds	LS	LS	2.5	LS	0.50	LS	0.50	LS	0.50	LS	0.50	LS	0.50	2.50
	3	Birds census	LS	LS	0.20		0.20		0.20		0.20		0.20		0.20	1.00
	4	Purchase of bird rescue tools and equipment.	LS	LS	1.00			LS	1.00							1.00
IX	Other Contingencies		LS	LS			0.83		0.06				0.23		0.14	1.27
Total							94.00		112.00		145.00		95.00		130.00	460.0

Revenue realized during previous years:

Nanjарayan Bird Sanctuary is free to all visitors. Till now no entry fees is charged. Hence there is no revenue realized in the past.

REVENUE REALISED

Year	CHILD		ADULT		STILL CAMERA		VIDEO		Total Revenue
	Nos	Amount	Nos	Amount	Nos	Amount	Nos	Amount	
2010-11	-	-	-	-	-	-	-	-	-
2011-12	-	-	-	-	-	-	-	-	-
2012-13	-	-	-	-	-	-	-	-	-
2013-14	-	-	-	-	-	-	-	-	-
2014-15	-	-	-	-	-	-	-	-	-
2015-16	-	-	-	-	-	-	-	-	-

Revenue expected

The entry fees will be the main revenue for the bird sanctuary. Until the entry fees is charged there will not be any revenue.

Fund flow:

Funds for carrying out the prescriptions of the Management Plan will be secured through Centrally Sponsored / Shared Schemes of the Government of India. Support of funding that may be possible from other agencies like the Department of Environment, Corporate Social Responsibility, and others will be attempted to be secured, and works implemented, keeping in mind the broad strategies / prescriptions highlighted in this Management Plan.

CHAPTER XII

THE SCHEDULE OF OPERATION AND MISCELLANEOUS REGULATIONS

12.1 The Schedule

The schedule of operations serves as the guiding force for management decisions, orchestrating a sequence of yearly tasks in a well-organized manner. It provides a comprehensive overview of the annual objectives to be achieved and the associated financial resources allocated in the budget. Every aspect of the organization's activities, including personnel recruitment, finds representation in this detailed plan. By following this structured schedule, the organization can effectively pursue its yearly goals, while strategically utilizing the allocated finances and workforce to ensure successful outcomes. (**Table 7**)

12.2 Record of Deviations and Implemented Targets

The Management Plan incorporates the use of a Sanctuary Book or a similar record-keeping system to document approved deviation proposals. These proposals encompass various elements, including yearly targets that have been postponed and can potentially be achieved within the overall Management Plan period. Additionally, strategies that have been indefinitely deferred due to compelling reasons, such as budget constraints, will also be recorded. Furthermore, any new strategies that were not initially part of the plan will be documented in this record-keeping system. This practice ensures that all deviations, deferrals, and new strategies are well-documented and accounted for, maintaining transparency and effectiveness in the management process. As Nanjarayan Bird Sanctuary is a newly formed bird sanctuary, it does not have a preceding management plan. Any deviations from the elements of this management plan will be recorded in the Sanctuary book.

12.3 Record of Employment Potential

Around 40% of the total amount proposed for the management of Nanjarayan Bird Sanctuary for the next five years will be spent on the employment of anti-poaching watchers and other laborers.

12.4 Control Forms

Since Nanjarayan is a bird Sanctuary, control forms are not required.

12.5 Maintenance of Compartment Histories

Since Nanjarayan Bird Sanctuary is a newly formed Bird Sanctuary, it doesn't have any records of the history of past management. In the upcoming years, management activities will be recorded for future reference.

12.6 A Pocket Field Guide for Plan Implementation

A pocket field guide will be prepared with essential data such as a field map, objectives of management, schedule of works, and it will be issued to the field staff.

TABLES

Table 1: Rain fall Details

Year	2017	2018	2019	2020	2021
Rainfall	679.8	716.2	488.1	748.8	845.1

Table 2: Temperature Details

	2016	2017	2018	2019	2020	2021	2022
Max (°C)	35	35	34	35	35	34	34
Min (°C)	21	21	21	21	21	21	21

Table 3: Humidity Details

	2016	2017	2018	2019	2020	2021	2022
Humidity (%)	66	68	69	68	69	72	73

Table 4: Village GPS Details

Sl. No	Village Name	Type of Village	Taluk	District	Lat (N)	Long (E)
1.	Mannarai	Revenue Village	Tiruppur North	Tiruppur	11.117449	77.374311
2.	Neruperichal		Tiruppur North	Tiruppur	11.160749	77.374141
3.	Sarkar Periyapalayam		Uthukuli	Tiruppur	11.130993	77.404046

Table 5: Village Population Details Gender wise

Sl. No	Name of Village	Male	Female	Children	Total	Sex Ratio
1.	Mannari	8,797	8,464	2,197	19,458	962
2.	Neruperichal	27,129	26,450	6,189	59,768	974
3.	Sarkar Periyapalayam	2,977	3,009	677	6,663	1011

Table 6: Agricultural land use pattern

Village Name	Total Geographical area (Ha)	Total Area under Agriculture (Ha)	Fallow land (Ha)	Net Area under Cultivation (Ha)	Rainfed Cultivation (Ha)	Cultivation using irrigation (Ha)
Mannarai	830.62	530.60	355.23	143.42	129.87	13.55
Neruperichal	1967.25	1754.75	1056.80	489.50	408.40	81.06
Sarkar Periyapalayam	526.07	477.42	187.18	166.10	148.80	17.29

Table 7: Schedule of operation

	Item of Work	2022-23	2023-24	2024-25	2025-26	2026 - 27	
I	Survey and Demarcation						
	1	Conducting survey and demarcation of the notified Sanctuary Area	No	Yes	No	No	No
	2	Drone based Digital Survey for contour mapping and other planning purpose.	No	Yes	No	No	No
	3	Fixation of boundary stones	No	Yes	No	No	No
II	Preparation of Detailed Project Report (DPR) using the services of resource organizations						
	1	Preparing Detailed Project Report (DPR) by engaging resource persons / organization	Yes	No	No	No	No
III	Formation of Eco-Development Committee (EDC) and other allied activities						
	1	conducting Participatory rural appraisal (PRA) exercise for active involvement of local communities in surrounding villages.	No	Yes	No	No	No
IV.	Entry Point Activities						
	1	Provision for incentives to the local communities by providing the revolving funds	No	Yes	No	No	No
V.	Management and Education activities						
	1	Providing Nature education and awareness programmes for students / publics and other stakeholders.	Yes	Yes	Yes	Yes	Yes

	2	Capacity building and management training for department staff, members of the Eco Development Committee on Sustainable Management of the Nanjarayan Tank	Yes	Yes	Yes	Yes	Yes	
VI	Preparation of Management Plan for Nanjarayan Bird Sanctuary, Tiruppur							
	1	Preparation of Management Plan as per the Guidelines	No	Yes	No	No	No	
VII	Human Resource Management							
	1	Provision for Engaging the Protection Watchers for safeguarding birds, infrastructure and lake	Yes	Yes	Yes	Yes	Yes	
	2	Provision for Engaging Eco Sanitary watcher	No	Yes	Yes	Yes	Yes	
	3	Provision for Engaging Eco-guide	No	No	No	Yes	Yes	
	4	Provision for Engaging Receptionist at the Conservation Centre	No	No	No	Yes	Yes	
VIII	Integrated lake protection activities							
	1	Protection of Lake boundaries with fencing in the Vulnerable area.	No	No	Yes	No	No	
IX	Afforestation Activities							
	1	Phased Removal of invasive alien species such as <i>Prosopis juliflora</i> around the Nanjarayan Lake	No	Yes	Yes	Yes	Yes	
	2	Raising of Nursery 25000 seedlings	No	Yes	Yes	Yes	No	
	3	Planting	No	Yes	Yes	Yes	No	
	4	1year maintenance of the planted seedlings	No	No	Yes	Yes	Yes	
X	Promotion of community based eco- tourism							
	A.	Creation of Conservation Centre as a Central Complex with all basic amenities and infrastructure						
	1	Construction of welcome entrance arch	No	Yes	No	No	No	
	2	Creation of access path for the use of the vehicle and visitors to reach the conservation centre (about 750 mtr)	No	No	Yes	No	No	
	3	Provision for interpretation Centre with conference hall facilities	No	No	Yes	No	No	

4	Preperation and Installation of exhibits, life size models, information kiosks and others similar works in interpretation centre.	No	No	Yes	No	No
5	Provision for documentation center including the mini theatre.	No	No	Yes	No	No
6	Provision for Rest Room Facilities for the visitors, EDC members and differently abled peoples.	No	No	Yes	No	No
7	Provision for ticket counter	No	No	Yes	No	No
8	Provision for Eco-shop	No	No	Yes	No	No
9	Provision for refreshment centre with all equipment's.	No	No	Yes	No	No
10	Provision for Walking strips / path.	No	No	No	Yes	No
11	Provision for mini open air amphi theatre	No	No	Yes	No	No
12	Provision for creation of nature parks (by way of bambusetum, botanical garden, Butterfly Garden, Medicinal tree parks etc.), landscaping and other related gardening works in and around the conservation centre including maintenance for next 3 years	No	Yes	Yes	Yes	Yes
13	Provision for drip irrigation facilities for the above-mentioned gardens	No	Yes	No	No	No
14	Provision for creation of parking centre in Conservation Centre	No	No	Yes	No	No
15	Display of pictorial hoardings / boards around the lake.	No	No	No	Yes	Yes
B	Development of infrastructure facilities for visitors and researchers for bird sighting, census operations, mobility and other allied activities around the Nanjarayan lake.					
1	Purchase of Computers with accessories, binocular, Safety Jackets, Chairs, Teapoy, fire extingunguishers, Digital board etc.	No	No	No	No	Yes
2	Formation of Nature Trial.	No	No	No	Yes	Yes
3	Erection of Watch Tower	No	No	No	Yes	No
4	Provision for Watch points / Viewing Deck / Galleries	No	No	No	No	Yes

	5	Creation of board walk at appropriate place	No	No	No	No	Yes
	6	Infrastructure facilities at mid interval for the member of EDC and visitors including RO water facilities, First aid and other allied facilities.	No	No	No	No	Yes
	7	Creation of bird's sculptures	No	No	No	No	Yes
	8	Providing seating facilities in and around the conservation centre and other areas.	No	No	No	No	Yes
	9	Providing rest room facilities at mid interval for the visiting tourists.	No	No	No	Yes	No
	10	Bird tree house with bird blind structure for observation and monitoring.	No	No	No	Yes	No
	11	Creation of kid zone	No	No	No	Yes	No
XI	Development of eco-tourism related infrastructure						
	1	Supply HDPE floating Jetty with S.S Hand Railing	No	No	No	No	Yes
	2	Purchase of Eco-Friendly Electric Boat - Battery Operated for conducting researchers, patrolling and allied activities.	No	No	No	No	Yes
	3	Supply of accessories such as IRS Approved Life Jacket, Life Bouy and Nylon / PP Rope and First Aid Box	No	No	No	No	Yes
	4	Solar light facilities for lake path way at every 100 mtrs in and around conservation centre and visitors' area.	No	No	Yes	No	No
	5	Providing RO drinking water facilities	No	No	Yes	No	No
	6	Providing water facilities to the infrastructure through digging borewell, pipeline and other plumbing works.	No	Yes	Yes	No	No
	7	Purchase of camper vehicle	No	Yes	No	No	No
	8	Providing fuel facilities for camper vehicle (150/- Litre x 25 x 60) for 5 Years	No	Yes	Yes	Yes	Yes
	9	Purchase of Battery Car	No	No	No	No	Yes
	10	Provision for coracles	No	No	No	No	Yes

	11	Provision for Dustbin facilities in and around the lake	No	No	No	No	Yes
	12	Provision of battery-operated tricycle for collection and disposal of soild waste.	No	No	No	No	Yes
	13	Provision for bicycle	No	No	No	No	Yes
	14	Setting up for video surveillance facilities	No	No	No	Yes	No
	15	Training for boat man and coracle operators.	No	No	No	No	Yes
XII	Research and Rescue Activities						
	1	Creation of Ornithological research / extension and rescue centre	No	No	Yes	No	No
	2	Research and Publication about birds	Yes	Yes	Yes	Yes	Yes
	3	Birds census	Yes	Yes	Yes	Yes	Yes
	4	Purchase of bird's rescue tools and equipments.	No	No	No	No	Yes

	Item of work	2027-28	2028-29	2029-30	2030-31	2031-32	
I	Entry Point Activities						
	1	Providing vocational/ livelihood and skills training to the local communities	Yes	Yes	No	No	No
II	Management and Education activities						
	1	Providing Nature education and awareness programmes for students / publics and other stakeholders.	Yes	Yes	Yes	Yes	Yes
III	Human Resource Management						
	1	Provision for Engaging the Protection Watchers for safeguarding birds, infrastructure and lake	Yes	Yes	Yes	Yes	Yes
	2	Provision for Engaging Eco Sanitary watcher	Yes	Yes	Yes	Yes	Yes
	3	Provision for Engaging Eco-guide	Yes	Yes	Yes	Yes	Yes
	4	Provision for Engaging Receptionist at the Conservation Centre	Yes	Yes	Yes	Yes	Yes
IV	Integrated lake protection activities						
	1	Maintenance of Lake boundary 6 km of Lake boundaries with fencing in the Vulnerable area.	Yes	Yes	No	No	No
V	Afforestation Activities						
	1	Phased Removal of invasive alien speices such as <i>Prosopis juliflora</i> around the Nanjarayan Lake	Yes	Yes	Yes	Yes	Yes
VI	Promotion of community based eco- tourism						
	A	Creation of Conservation Centre as a Central Complex with all basic amenities and infrastructure					
	1	Maintenance of welcome entrance arch	Yes	No	No	No	No
	2	Maintenance of access path for the use of the vehicle and visitors to reach the conservation centre (about 750 mtr)	No	No	Yes	No	No
	3	Maintenance of interpretation Centre with conference hall facilities	No	No	No	No	Yes

	4	Maintenance of exhibits, life size models, information kiosks and others similar works in interpretation centre.	No	No	Yes	No	Yes
	5	Maintenance of documentation center including the mini theatre.	No	No	No	No	Yes
	6	Maintenance of Rest Room Facilities for the visitors, EDC members and differently abled peoples.	No	No	Yes	No	No
	7	Maintenance of Eco-shop and Ticket counter and refreshment centre	No	No	Yes	No	No
	8	Maintenance of walking strips / path.	No	No	Yes	No	No
	9	Maintenance of mini open air amphitheatre	No	No	Yes	No	No
	10	Maintenance of nature parks (by way of bambusetum, botanical garden, Butterfly Garden, Medicinal tree parks etc.), landscaping and other related gardening works in and around the conservation centre including maintenance for next 3 years	Yes	Yes	Yes	Yes	Yes
	11	Maintenance of parking centre in Conservation Centre	No	No	Yes	No	No
	12	Display of pictorial hoardings / boards around the lake.	No	No	No	Yes	Yes
	B	Development of infrastructure facilities for Staffs, visitors and researchers for bird sighting, census operations, mobility and other allied activities around the Nanjarayan lake.					
	1	Construction of Administration block	Yes	No	No	No	No
	2	Construction of staff quarters	No	Yes	Yes	Yes	No
	3	Maintenance of Computers and accessories, replacement and maintenance of binocular, Safety Jackets, Chairs, Tea poy, fire extinguishers, Digital board etc.	Yes	Yes	Yes	Yes	Yes
	5	Maintenance of Nature Trail.	No	No	Yes	No	No
	5	Maintenance of Watch Tower	No	No	No	Yes	No
	6	Maintenance of Watch points / Viewing Deck / Galleries	No	No	No	Yes	No

	7	Maintenance of existing board walk structure	No	No	No	No	Yes
	8	Regular maintenance of Infrastructure facilities at midinterval for the members of EDC andvisitors including RO water facilities,First aid and other allied facilities.	Yes	Yes	Yes	Yes	Yes
	9	Maintenance of bird's sculptures	No	Yes	Yes	No	No
	10	Maintenance of seating facilities in and around the conservation centre and other areas.	No	No	No	Yes	No
	11	Maintenance of rest room facilities at mid interval for the visiting tourists.	No	No	No	Yes	No
	12	Maintenance of Bird tree house with bird blind structure for observation and monitoring.	No	No	No	Yes	No
	13	Maintenance of kid zone	No	No	No	No	Yes
VII Development of eco-tourism related infrastructure							
	1	Regular maintenance of HDPE floating Jetty with S.S Hand Railing	Yes	Yes	Yes	Yes	Yes
	2	Maintenance of Eco-Friendly Electric Boat - Battery Operated for conducting researchers, patrolling and allied activities.	No	No	No	Yes	Yes
	3	Maintenance of Solar light facilities for lake path way at every 100 metres in and around conservation centre and visitor area.	No	No	No	No	Yes
	4	Maintenance of water facilities such as pipelines, motors	Yes	Yes	Yes	Yes	Yes
	5	Maintenance of camper vehicle	Yes	Yes	Yes	Yes	Yes
	6	Providing fuel facilities for camper vehicle (150/- Litre x 25 x 60) for 5 Years	Yes	Yes	Yes	Yes	Yes
	7	Maintenance of Battery Car	No	No	No	No	Yes
	8	Replacement of Dustbin facilities in and around the lake	No	No	No	No	Yes
	9	Maintenance of battery-operated tricycle for collection and disposal of soild waste.	Yes	Yes	Yes	Yes	Yes

	10	Provision for bicycle	No	No	No	No	Yes
	11	Setting up for video surveillance facilities	No	No	No	Yes	
	12	Training for boat man and coracle operators.	No	No	No	No	Yes
VIII Research and Rescue Activities							
	1	Maintenance of Ornithological research / extension and rescue centre	No	Yes	No	No	Yes
	2	Research and Publication about birds	Yes	Yes	Yes	Yes	Yes
	3	Birds census	Yes	Yes	Yes	Yes	Yes
	4	Purchase of bird rescue tools and equipment.	No	Yes	No	No	No

Table 8: DEVIATION STATEMENT FOR LAST MANAGEMENT PLAN PERIOD

Serial No. of deviation	Control book name, form no, page	Reference to Working Plan		Nature of deviation requiring sanction
		Paragraph	Nature of prescription	
NIL				

Table 9: PRESENT STAFF POSITION IN NANJARAYAN BIRDS SANCTUARY

Sl. No	Staff	Present Strength
1.	Forest Range Officer	1
2.	Forester	1

Table 10: REQUIREMENT STAFF POSITION IN NBS

Sl. No	Staff	Required Strength
1.	Forester	1
2.	Forest Guard	1
3.	Forest Watcher	2

Diagram and Designs – 1

Rainfall details:

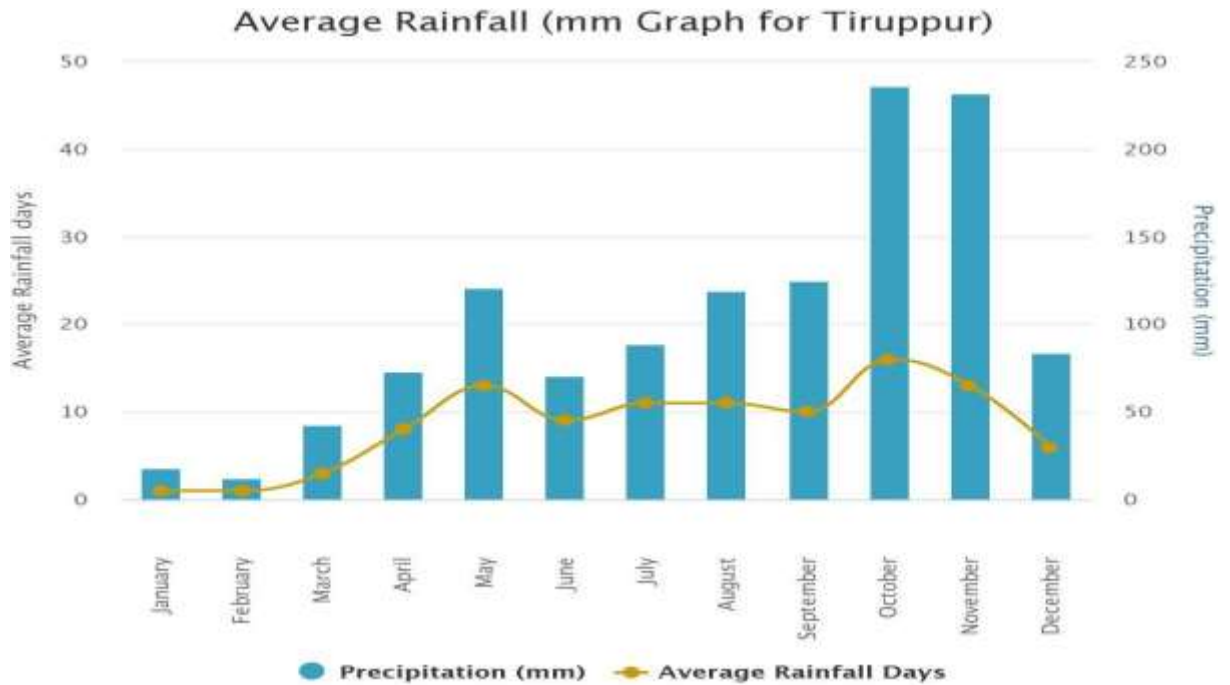
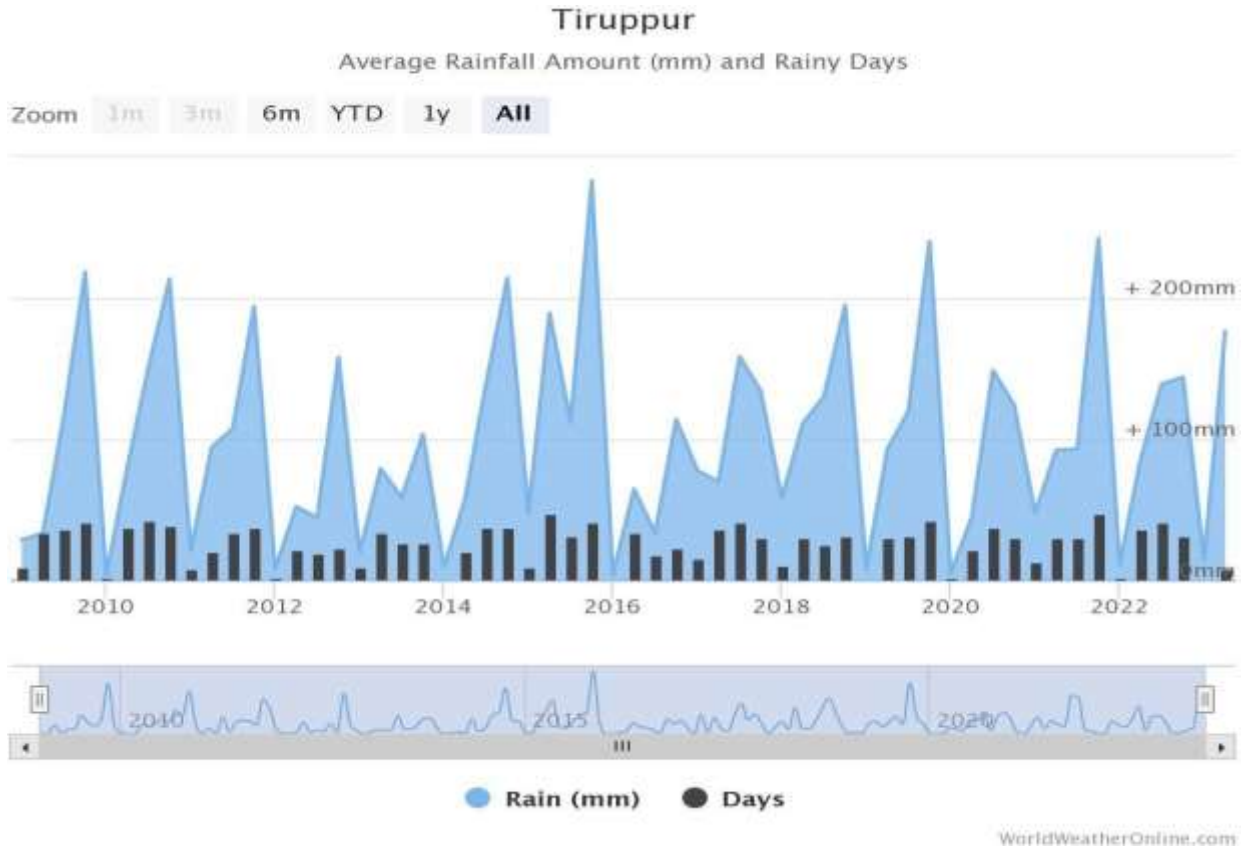


Diagram and Designs – 2

Temperature details:

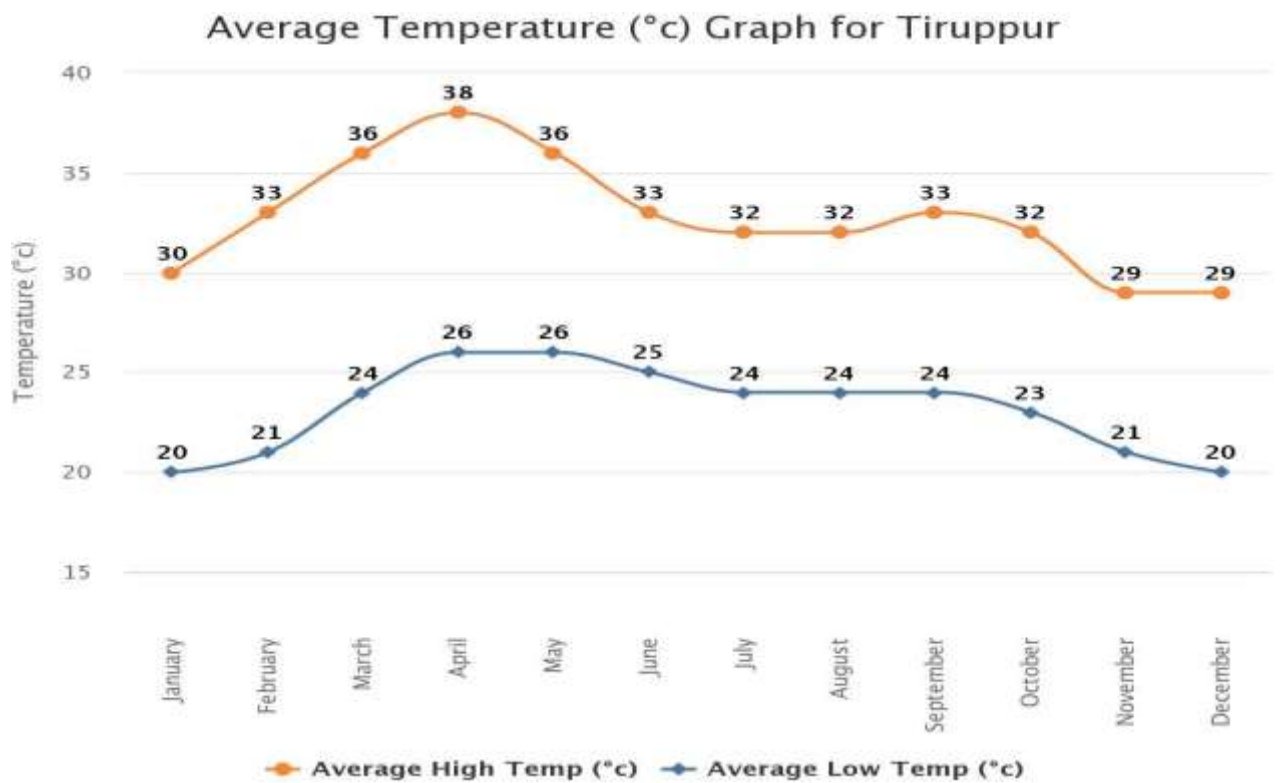
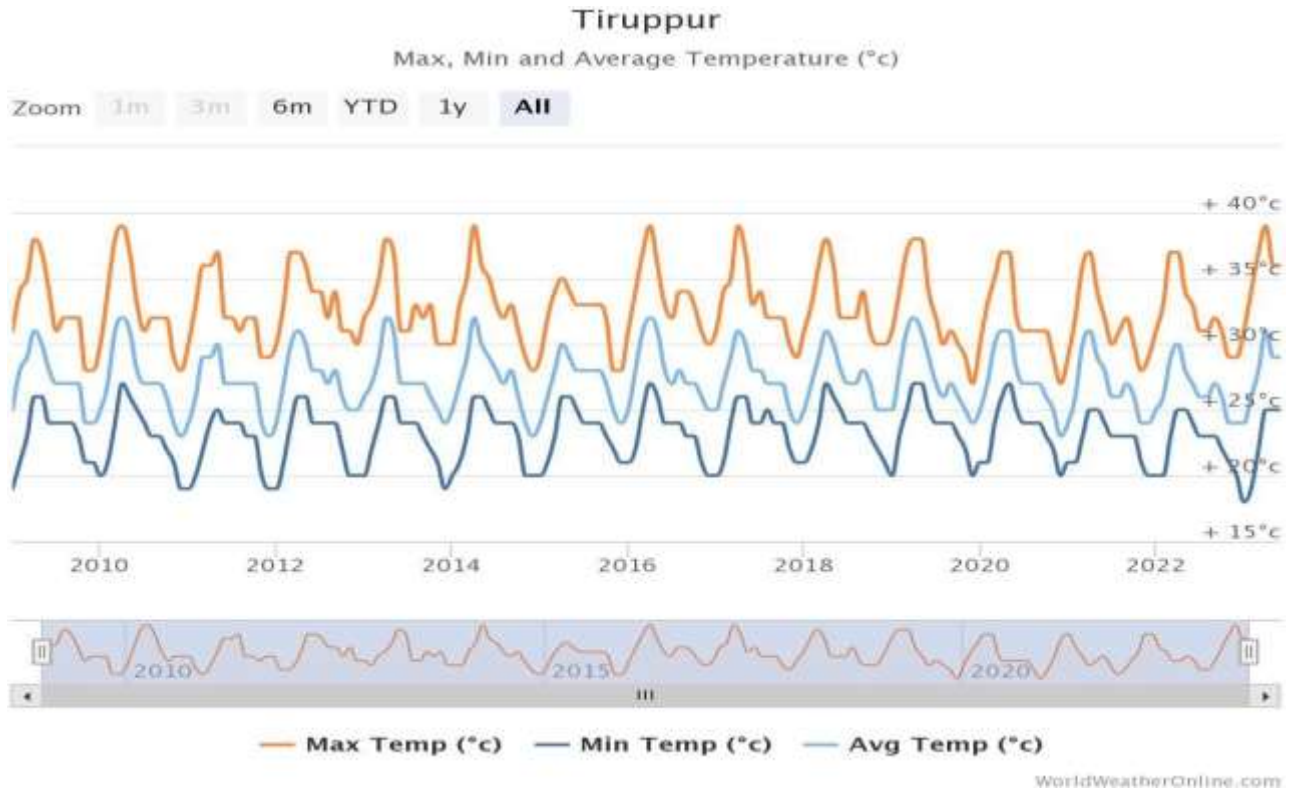


Diagram and Designs – 3

Humidity details:

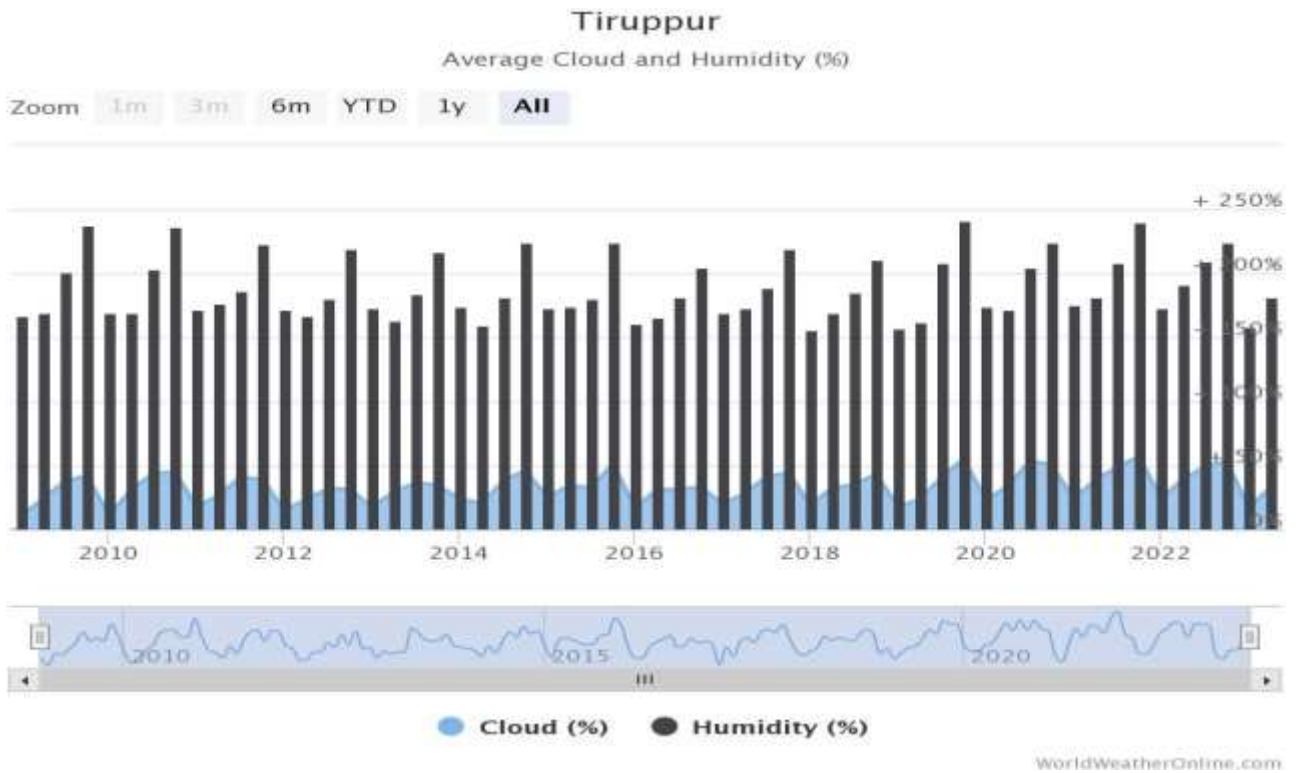


Diagram and Designs – 4

Wind speed details:

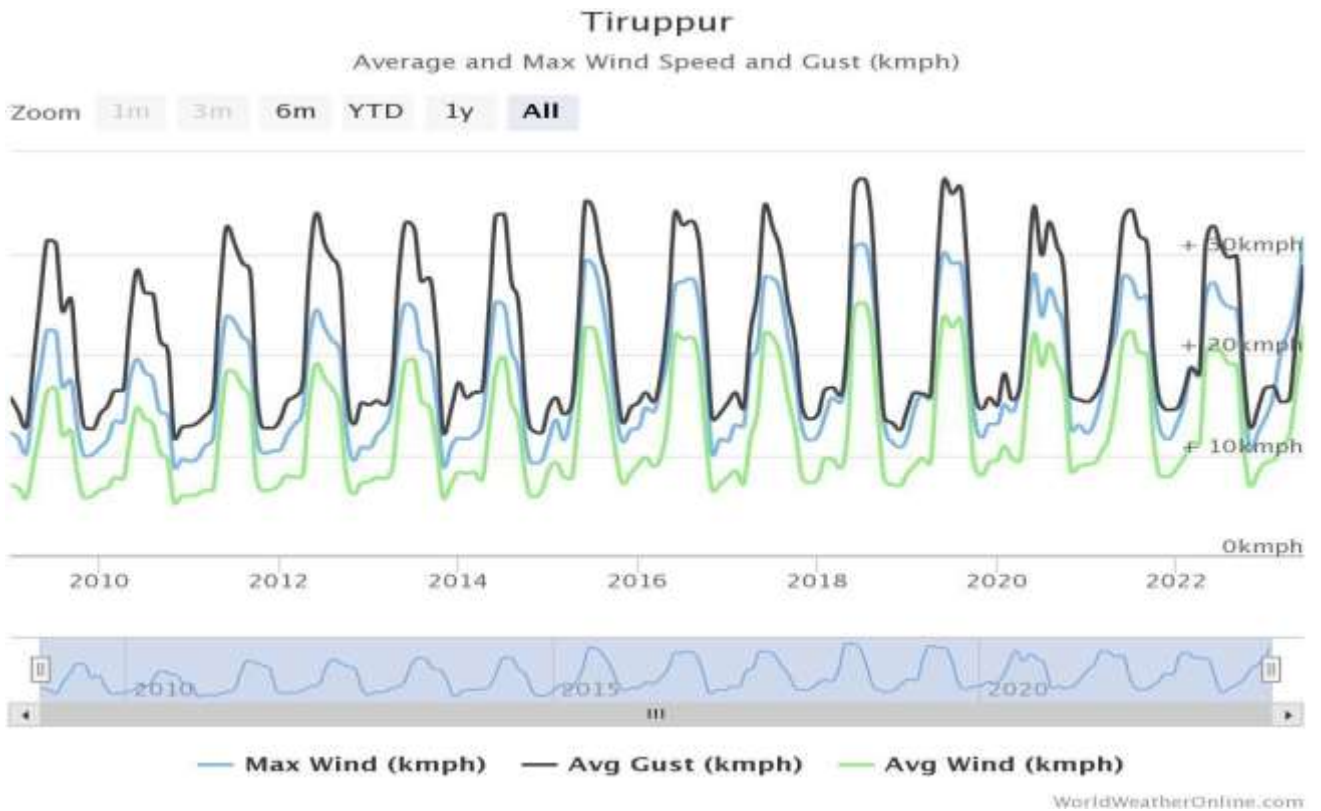
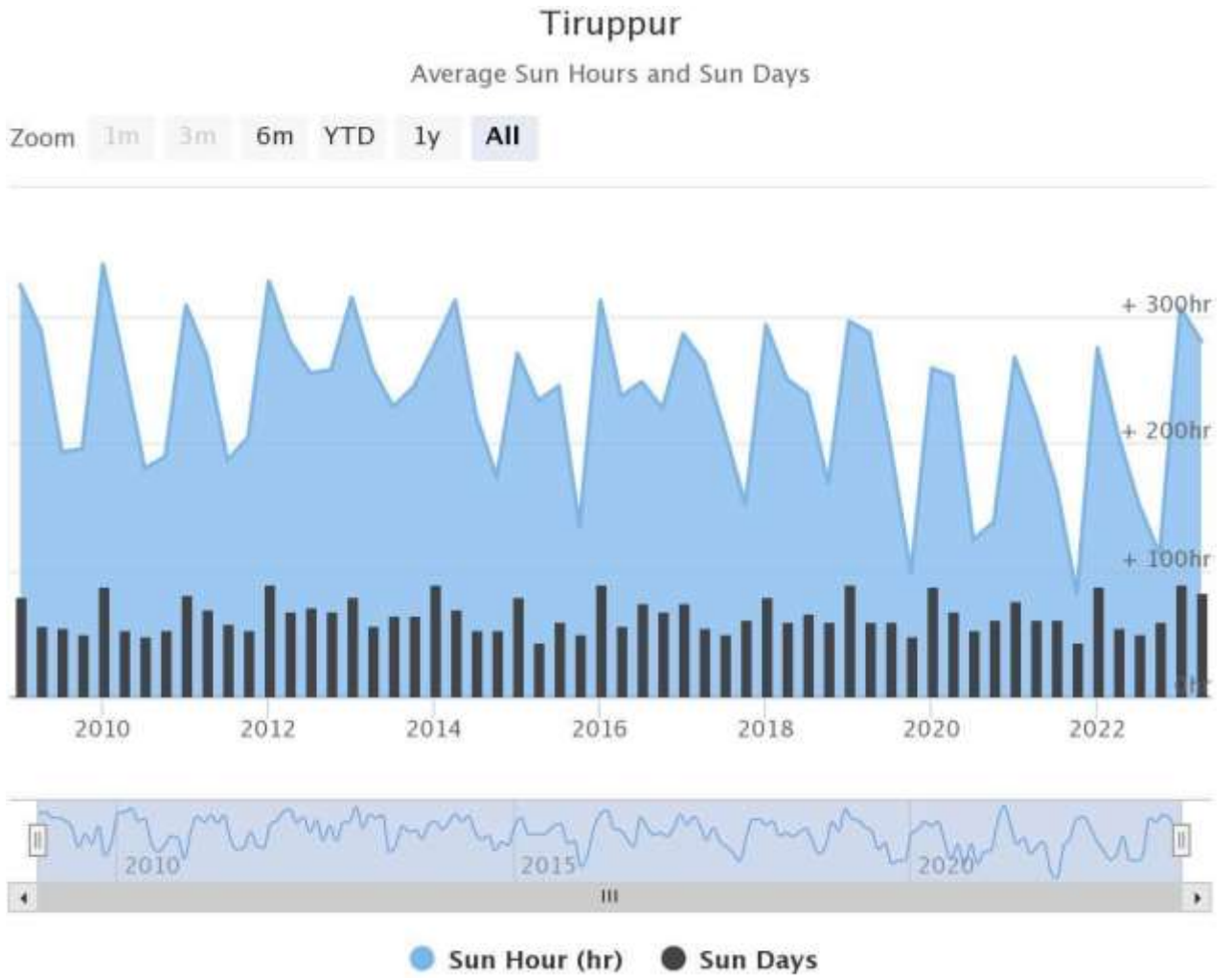


Diagram and Designs – 5

Drought details:



WorldWeatherOnline.com

GLOSSARY

Biological diversity: The variety of life and its processes, including complexity of species, communities, gene pools, and ecological functions (Spotted owl EIS Team, USDA Forest Service 1993).

Habitat component: A simple part or a relatively complex entity regarded as a part, of an area or type of environment in which an organism or biological population normally lives or occurs (Thomas 1979).

Hot spots: Specific small areas within a landscape exhibiting significantly higher levels of plant/animal diversity or unique composition of plants/animals. (Sawarkar, 1995)

Indicator species: A selected species presumed to indicate the welfare of other species or that which represents a specific habitat condition (Thomas 1979)

Key areas: Areas that offer key habitat functions for a species such as breeding, fawning, roosting, nesting or those that have obligate species; biological or geomorphic in nature. (Sawarkar, 1995)

Key species: In order of priority, generally a small number of species identified as species of conservation importance and might include endangered, endemic, rare or threatened species of plants and animals. (Sawarkar, 1995)

Keystone species: Animals or plants which, by virtue of their presence or absence, alter the structure of a community (Krebs 1978).

Landscape: Large ecological units which function as integrated bioregions, containing national parks, sanctuaries, all or some combination of legal and functional categories of forests, village systems, lands under various ownership and landuse categories and wastelands (Holthausen, Sawarkar, Darden, 1991).

Limiting factor: The environmental influence through which the toleration limit of an organism is first reached, which acts, therefore, as the immediate restriction in one or more of its functions or activities or in its geographic distribution (Hanson 1962)

Sensitive species: A species intolerant to any alteration in its habitat, a species which is exacting in its habitat requirements and rapidly exhibits adverse impacts as a consequence to minor disturbance. (Sawarkar 1995)

Snag: A standing dead tree, whole or broken, at least 1.5 m in height where broken, with a minimum of 20 cm dbh, with or without limbs or bark (Sawarkar 1991).

Special habitat: A habitat which has a special function not provided by plant communities and succession stages; includes riparian zones, snags, dead and down woody material and edges. Biological in nature; can be created or altered by management (Thomas 1979).

Species richness: A measure or expression of the number of species of plants or animals present in an area; the more species present, the higher the degree of species richness (Thomas 1979)

Wildlife damage Problems: such as crop raiding, livestock depredation, problems destruction, of property, injuries to people, man killing by wildlife.

Zone of influence: The extent of area outside the legal PA boundaries over which wildlife damage problems of significance occur, excluding damage caused by itinerant elephant population not necessarily dependent on the PA and the extent of area settled by villages with people having a traditional PA based resource dependency, whichever is the greater area in extent. This is also considered as the buffer zone. (Sawarkar 1995)

ABBREVIATIONS USED

1.	ACF	Assistant Conservator of Forests
2.	BSI	Botanical Survey of India
3.	CWLW	Chief Wildlife Warden
4.	DLCC	District Level Coordination Committee
5.	EDP	Eco development Planning/Plan EDPO Eco development Planning Officer
6.	FRI	Forest Research Institute, Dehra Dun
7.	FSI	Forest Survey of India, Dehra Dun
8.	IBWL	Indian Board for Wildlife/National Board of Wildlife
9.	JFM	Joint Forest Management
10.	MF	Managed Forests
11.	MFP	Minor Forest Produce
12.	NFP	National Forest Policy
13.	NGO	Non-Governmental Organisation
14.	NWP	Non-Wood Forest Produce
15.	PA	Protected Area
16.	SACON	Salim Ali Centre for Ornithology, Coimbatore
17.	WII	Wildlife Institute of India, Dehra Dun
18.	WLS	Wildlife Sanctuary
19.	WPA	1972 Wildlife (Protection) Act, 1972
20.	ZSI	Zoological Survey of India

REFERENCES

Ali, S. and S. D. Ripley. (1969). Handbook *of the* birds of India and Pakistan. Oxford University Press, Bombay.

Ali, S. and S. D. Ripley. (1983). Handbook *of the* birds of India and Pakistan. Compact Ed., Oxford University Press, New Delhi.

Sawarkar, B Vishwas. (2005) A Guide to Planning Wildlife Management in Protected Areas & Managed Landscapes. Oxford University Press, Bombay.

PART III
Appendices and Maps

Annexures I
Notification of Sanctuary



ABSTRACT

Forests – Wildlife – Declaration of Nanjarayan Birds Sanctuary situated in Uthukuli and Tiruppur North Taluks of Tiruppur District – Notification under section 18 (1) of the Wild Life (Protection) Act, 1972 (Central Act 53 of 1972) – Notified – Order issued.

ENVIRONMENT, CLIMATE CHANGE AND FORESTS (FR.5) DEPARTMENT

G.O.(Ms).No.154

Dated: 12.09.2022

சுபகிருது, ஆவணி-27

திருவள்ளூர் ஆண்டு- 2053

Read:

From the Principal Chief Conservator of Forests and Chief Wildlife Warden (FAC), Chennai letter No.WL5/20062/2014, dated 23.04.2022 and 14.06.2022.

ORDER:

The Hon'ble Minister (Forests) has made the following announcement on the floor of the Tamil Nadu Legislative Assembly on 25.04.2022 :-

"Nanjarayan Tank located at Tiruppur District will be notified as the 17th Birds Sanctuary of Tamil Nadu and for which an amount of Rs.7.5 crore will be allotted by the Government of Tamil Nadu"

Accordingly, the Principal Chief Conservator of Forests and Chief Wildlife Warden has sent draft notification in the letter read above for declaration of an extent of 125.86.5 hectares in Uthukuli and Tiruppur North Taluks of Tiruppur District situated in Nanjarayan Tank as Nanjarayan Birds Sanctuary under sub section (1) of section 18 of the Wild Life (Protection) Act, 1972 (Central Act 53 of 1972).

2. The Government, after careful examination of the proposal of the Principal Chief Conservator of Forests and Chief Wild Life Warden intends to declare the area to an extent of 125.86.5 hectares in Uthukuli and Tiruppur North Taluks of Tiruppur District situated in Nanjarayan Tank as Nanjarayan Tank Birds Sanctuary under sub section (1) of section 18 of the Wild Life (Protection) Act, 1972 (Central Act 53 of 1972). Accordingly, the Notification appended to this Order will be published both in English and Tamil in the Tamil Nadu Government Gazette and in Tamil in the District Gazette of the Tiruppur district.

3. The Works Manager, Government Central Press, Chennai is requested to send 25 copies of each of the Notification to Government, the Principal Chief Conservator of Forests / Principal Chief Conservator of Forests and Chief Wild Life Warden and the Collector of Tiruppur district as soon as the Notification is published.

4. The Tamil Development and Information Department is requested to send a Tamil translation of the Notification immediately to the Works Manager, Government Central Press, Chennai for publication in the Tamil Nadu Government Gazette and in the District Gazette of Tiruppur district.

(BY ORDER OF THE GOVERNOR)

SUPRIYA SAHU
ADDITIONAL CHIEF SECRETARY TO GOVERNMENT

To
The Works Manager,
Government Central Press, Chennai-1.(we)
The Principal Chief Conservator of Forests, Chennai-15.
The Principal Chief Conservator of Forests and
Chief Wildlife Warden (FAC), Chennai-15.
The Secretary to Government of India,
Ministry of Environment, Forests and Climate Change,
(CS.I Division), 5th Floor, Vayu Wing,
Indira Paryavaran Bhawan,
Jor Bagh Road, New Delhi – 110 003.
The Collector, Tiruppur District .
The District Forest Officer, Tiruppur.

Copy to:

The Special Personal Assistant to Hon'ble Chief Minister,
Chennai-9.
The Private Secretary to Secretary-IV to Hon'ble Chief Minister,
Chennai-9.
The Water Resources Department, Chennai-9.
The Law Department, Chennai – 9.
The Tamil Development and Information (Translation) Department,
Chennai-9.
SF/SCs.

/FORWARDED BY ORDER/

P. Sahu
12.9.22
SECTION OFFICER
Sahu

APPENDIX.
NOTIFICATION.

WHEREAS, the Government of Tamil Nadu considers that the area of Nanjarayan Tank (Sarkar Periyapalayam) in Neruperichal and Sarkar Periyapalayam Villages of Tiruppur North and Uthukuli Taluk in Tiruppur district described in the Schedule below is of adequate ecological, faunal, floral, natural and geomorphological significance, for the purpose of protecting, propagating and developing wild life and their environment.

NOW, THEREFORE, in exercise of the powers conferred by sub - section (1) of section 18 of the Wild Life (Protection) Act, 1972 (Central Act 53 of 1972), the Governor of Tamil Nadu hereby declares his intention to constitute the said area as Nanjarayan Tank Birds Sanctuary.

THE SCHEDULE.

1.	Name of the District	:	Tiruppur		
2.	Name of the Taluk	:	Uthukuli and Tiruppur North.		
3.	Name of the Villages and Survey Number with Area	:	Village Numbers	Survey Numbers	Extent (in hectares)
			37 Sarkar Periyapalayam	1	106.54.5
			3 Neruperichal	443	19.32.0
			Total	125.86.5	

BOUNDARY DESCRIPTION

- North** : Starting from Tri- junction of Village No.7 Mannarai and Village No. 3 Nerupperichal of Tiruppur – North Taluk and Village No. 37. Sarkar Periyapalayam of Uthukuli Taluk, then run towards East along the Southern side of Survey Field Numbers 458, 457, 456, 448 and 447 of Village No.3. Nerupperichal Village then run towards north along Eastern side of Survey Field Numbers 445, 444, 451 and 462 of Village No.3. Nerupperichal Village then run towards East along Southern side of Survey Field Numbers 442, 441 and 440 of Village No.3 Nerupperichal Village and run towards South along the Western side Survey Field Numbers 437,436 and 433 of Village No.3 Nerupperchal Village.
- East** : Then the Boundary runs generally towards South and the along Western side Survey Field Numbers 123,122,121 and 39 of Village No.37. Sarkar Periyapalayam.
- South** : Then the Boundary runs towards West along with Northern side of Survey Field Numbers 38, 36, 35, 31, 30, 21, 20, 19, 18, 17 and 16 of Village No.37 Sarkar Periyapalayam.

West : Then the Boundary runs generally towards North along with Eastern side of Survey Field Numbers 9, 5, 4, 3 and 2 of Village No.37 Sarkar Periyapalayam and Survey Field Numbers 2, 1 and 13 of Village No.7. Mannarai Village boundary and joins the starting point.

The Sarkar Periyapalayam Tank (Nanjarayan Tank) is located around $11^{\circ} 8' 5''$ N and $77^{\circ} 22' 59''$ E is a large wetland situated along the north- eastern region of Uthukuli and Tiruppur North Taluks of Tiruppur district in Tamil Nadu.

SUPRIYA SAHU
ADDITIONAL CHIEF SECRETARY TO GOVERNMENT

//True Copy//

P. Sathi
12.9.20
SECTION OFFICER
BY



**TIRUPPUR
DISTRICT GAZETTE
EXTRAORDINARY
PUBLISHED BY AUTHORITY**

No. 1]

TIRUPPUR, MAY 16, 2023

(Sobakiruthu, Vaikasi 2 - Thiruvalluvar Aandu 2054)

NOTIFICATION BY THE COLLECTOR

[Ref.No.21271/2019/(A-1), நாள்: 09.05.2023]

**PROCLAMATION BY DISTRICT COLLECTOR TIRUPPUR
UNDER SECTION 21 OF WILDLIFE PROTECTION Act, -1972**

Tamil Nadu State Government by its G.O. (Ms) No.154 Environment and Forest (FR-V) Department has decided to notify Nanjarayan Tank in Tiruppur North and Uthukuli Taluk, Tiruppur District as Nanjarayan Birds Sanctuary under section 18 (1) of the Wildlife (Protection) Act, 1972 (Central Act 53 of 1972) published on 12.09.2022. As per section 19 of Wildlife Protection Act, 1972, District Collector Tiruppur has to inquire into and the existence nature and extent of the rights of any person in or over the land comprised within the sanctuary. So this proclamation is issued under section 21 of Wildlife Protection Act, 1972.

The total area to be notified as Nanjarayan Birds Sanctuary is 125.86.5 hectares in Neruperichal and Sarkar Periyapalayam villages of Tiruppur North and Uthukuli Taluk. The details of which are as below:-

THE SCHEDULE.

1. Name of the District	:	Tiruppur		
2. Name of the Taluk	:	Uthukuli and Tiruppur North		
3. Name of the Villages and Survey Number with Area	:	Village Numbers	Survey Numbers	Extent (in hectares)
		37	1	106.54.5
		Sarkar Periyapalayam		
		3	443	19.32.0
		Neruperichal		
			Total	125.86.5

BOUNDARY DESCRIPTION

North : Starting from Tri- junction of Village No.7 Mannarai and Village No. 3 Neruperichal of Tiruppur – North Taluk and Village No. 37. Sarkar Periyapalayam of Uthukuli Taluk, then run towards East along the Southern side of Survey Field Numbers 458, 457, 456, 448 and 447 of Village No.3. Neruperichal Village then run towards north along Eastern side of Survey Field Numbers 445, 444, 451 and 462 of Village No.3. Neruperichal Village then run towards East along Southern side of Survey Field Numbers 442, 441 and 440 of Village No.3 Neruperichal Village and run towards South along the Western side Survey Field Numbers 437,436 and 433 of Village No.3 Neruperichal Village.

East : Then the Boundary runs generally towards South and the along Western side Survey Field Numbers 123,122,121 and 39 of Village No.37. Sarkar Periyapalayam

South : Then the Boundary runs towards West along with Northern side of Survey Field Numbers 38, 36, 35, 31, 30, 21, 20, 19, 18, 17 and 16 of Village No.37 Sarkar Periyapalayam

West : Then the Boundary runs generally towards North along with Eastern side of Survey Field Numbers 9, 5, 4, 3 and 2 of Village No.37 Sarkar Periyapalayam and Survey Field Numbers 2, 1 and 13 of Village No.7. Mannarai Village boundary and joins the starting point

The Sarkar Periyapalayam Tank (Nanjarayan Tank) is located around 11° 8' 5" N and 77° 22' 59" E is a large wetland situated along the north- eastern region of Uthukuli and Tiruppur North Taluks of Tiruppur district in Tamil Nadu.

This proclamation is issued under Section 19 of Wildlife (Protection) Act, 1972 asking any person, claiming any right to prefer before the District Collector Tiruppur, within two month from (09.05.2023) a written claims in Form No. 8 as enclosed as per Rule no.26 of Wildlife (Protection) (Tamil Nadu) Rules 1972 (G.O.(M.S) No. 154, Environment and Forest (FR-V) 12 September 2022)

After declaration of the mentioned area as Nanjarayan Birds Sanctuary following provisions of the Wildlife (Protection) Act, 1972 (along with associated rules and guidelines) will be applicable to the above area

As per section – 27. Restriction on entry in sanctuary:

- (1) No person other than-
 - (a) A public servant on duty,
 - (b) A person who has been permitted by the Chief Wild Life Warden or the authorized officer to reside within the limits of the sanctuary.
 - (c) A person who has any right over immovable property within the limits of the sanctuary.
 - (d) A person passing through the sanctuary along a public highway, and
 - (e) The dependants of the person referred to in clause (a), clause (b) or clause (c), shall enter or reside in the sanctuary, except under and in accordance with the conditions of a permit granted under section 28.
- (2) Every person shall, so long, as he resides in the sanctuary, be bound-(a) to prevent the commission, in the sanctuary, of an offence against this Act;
- (3) No person shall, with intent to cause damage to any boundary-mark of a sanctuary or to cause wrongful gain as defined in the Indian Penal Code, (45 of 1860), alter, destroy, move or deface such boundary-Mark.
- (4) No person shall tease or molest any wild animal or litter the grounds of sanctuary.]

As per section -29. Destruction, etc., in a sanctuary prohibited without a permit:

No person shall destroy, exploit or remove any wild life including forest produce from a sanctuary or destroy or damage or divert the habitat of any wild animal by any act whatsoever or divert, stop or enhance the flow of water into or outside the sanctuary, except under and in accordance with a permit granted by the Chief Wild Life Warden, and no such permit shall be granted unless the State Government being satisfied in consultation with the Board that such removal of wild life from the sanctuary or the change in the flow of water into or outside the sanctuary is necessary for the improvement and better management of wild life therein, authorizes the issue of such permit: Provided that where the forest produce is removed from a sanctuary the same may be used for meeting the personal bona fide needs of the people living in and around the sanctuary and shall not be used for any commercial purpose.

As per section -30. Causing fire prohibited:

No person shall set fire to a sanctuary, or kindle any fire, or leave any fire burning, in a sanctuary, in such manner as to endanger such sanctuary.

As per section -31. Prohibition of entry into sanctuary with weapon:

No person shall enter a sanctuary with any weapon except with the previous permission in writing of the Chief Wild Life Warden or the authorized officer.

As per section -32. Ban on use of injurious substances:

No person shall use, in a sanctuary, chemicals, explosives or any other substances which may cause injury to, or endanger, any wild life in such sanctuary.

As per section -33. Control of sanctuaries:

The Chief Wild Life Warden shall be the authority who shall control, manage and maintain all sanctuaries and for that purpose, within the limits of any sanctuary-

- (a) may construct such roads, bridges, buildings, fences or barrier gates, and carry out such other works as he may consider necessary for the purposes of such sanctuary;

Provided that no construction of commercial tourist lodges, hotels, zoos and safari parks shall be undertaken inside a sanctuary except with the prior approval of the National Board.]

- (b) Shall take such steps as will ensure the security of wild animals in the sanctuary and the preservation of the sanctuary and wild animals therein;
- (c) May take such measures, in the interests of wild life, as he may consider necessary for the improvement of any habitat;
- (d) May regulate, control or prohibit, in keeping with the interests of wild life,

As per section -33A. Immunisation of live-stock:

- (1) The Chief Wild Life Warden shall take such measures in such manner, as may be prescribed, for immunization against communicable diseases of the live-stock kept in or within five kilometres of a sanctuary
- (2) No person shall take, or cause to be taken or grazed, any live-stock in a sanctuary without getting it immunized.

As per section -34. Registration of certain persons in possession of arms:

- (1) Within three months from the declaration of any area as a sanctuary, every person residing in or within ten kilometers of any such sanctuary and holding a license granted under the Arms Act, 1959 (54 of 1950), for the possession of arms or exempted from the provisions of that Act and possessing arms, shall apply in such form, on payment of such fee and within such time as may be prescribed, to the Chief Wild Life Warden or the authorized officer, for the registration of his name.
- (2) On receipt of an application under sub-section (1), the Chief Wild Life Warden or the authorized officer shall register the name of the applicant in such manner as may be prescribed.
- (3) No new licenses under the Arms Act, 1959 (54 of 1959) shall be granted within a radius of ten kilometers of a sanctuary without the prior concurrence of the Chief Wild Life Warden.

As per section -34-A. Power to remove encroachment:

- (1) Notwithstanding anything contained in any other law for the time being in force, any officer not below the rank of Assistant Conservator of Forests may,-
 - (a) evict any person from a sanctuary or National Park, who unauthorizedly occupies Government land in contravention of the provisions of this Act;
 - (b) remove any unauthorized structures, buildings or constructions erected on any Government land within any sanctuary or National Park and all the things, tools, and effects belongings to such person shall be confiscated, by an order of an officer not below the rank of the Deputy Conservator of Forests.

Provided that no such order shall be passed unless the affected person is given an opportunity of being heard.

- (2) The provisions of this section shall apply notwithstanding any other penalty which may be inflicted for violation of any other provision of this Act.

Tiruppur,
09.05.2023.

S. VINEETH,
District Collector,
Tiruppur District.



திருப்பூர் மாவட்ட அரசிதழ்
சிறப்பு வெளியீடு
ஆணையின்படி வெளியிடப்பட்டது

திருப்பூர், மே 16, 2023

[சோபகிருது, வைகாசி 2 - திருவள்ளூர் ஆண்டு 2054] [எண் 33

மாவட்ட ஆட்சியர் அறிவிக்கை

[ந.க.எண்.21271/2019/(அ-1), நாள்: 09.05.2023]

**தமிழ்நாடு வன உயிரின பாதுகாப்புச்சட்டம் 1972 பிரிவு - 21-ன்படி
திருப்பூர் மாவட்ட ஆட்சியர் அவர்களின் அறிவிக்கை.**

அரசாணை (Ms) எண்.154, சுற்றுச்சூழல் மற்றும் வனம் (வனம் - V) துறை நாள். 12.09.2022-ல் திருப்பூர் மாவட்டம், திருப்பூர் வடக்கு வட்டம் மற்றும் ஊத்துக்குளி வட்டம், நஞ்சராயன் குளத்தினை வன உயிரின (பாதுகாப்புச்) சட்டம் 1972 (1972-ம் ஆண்டு மத்திய சட்டம் 53)-ன்படி நஞ்சராயன் குளத்தினை பறவைகள் சரணாலயமாக அறிவிக்கை செய்ய தமிழ்நாடு அரசு முடிவு செய்துள்ளது. வன உயிரின (பாதுகாப்புச்) சட்டம் 1972, பிரிவு 21-ன் கீழ் சரணாலயத்தில் உள்ள நிலத்தில் அல்லது அதற்குமேல் உள்ள எந்தவொரு நபரின் உரிமைகளின் இருப்புத் தன்மை மற்றும் அளவுகள் குறித்து விசாரிக்க திருப்பூர் மாவட்ட ஆட்சியர் அதிகாரமுள்ளவராவார். எனவே இந்த அறிவிக்கை வன உயிரின பாதுகாப்புச் சட்டம் 1972, பிரிவு 21-ன் கீழ் வெளியிடப்படுகிறது.

திருப்பூர் வடக்கு வட்டம் மற்றும் ஊத்துக்குளி வட்டம், நெருப்பெரிச்சல் மற்றும் சர்க்கார் பெரியபாளையம் கிராமத்திற்குட்பட்ட நஞ்சராயன் குளம் பறவைகள் சரணாலயமாக அறிவிக்கை செய்யப்படவுள்ள பகுதியின் மொத்தம் பரப்பளவு 125.86.5 ஹெக்டேர் ஆகும். அதன் விவரம் கீழே தரப்பட்டுள்ளது.

அட்டவணை

1.	வாடாட்டத்தின் பெயர்	:	திருப்பூர்		
2.	வாட்டத்தின் பெயர்	:	ஊத்துக்குளி மற்றும் திருப்பூர் வடக்கு.		
3.	கிராமங்களின் பெயர் மற்றும் பரப்பளவுடன் கூடிய நில அளவை எண்	:	கிராம எண்கள் 37 சர்க்கார் பெரியபாளையம்	நில அளவை எண்கள் 1	பரப்பளவு (ஹெக்டேரில்) 106.54.5
			3 நெருப்பெரிச்சல்	443	19.32.0
				மொத்தம்	125.86.5

பிரேரணை செய்யப்பட்டுள்ள சரணாலயத்தின் எல்லைகள் விவரம் கீழே தரப்பட்டுள்ளன.

வடக்கு: இந்த எல்லையானது, திருப்பூர்-வடக்கு வாட்டத்தின் கிராமம் எண்.7 மண்ணரை மற்றும் கிராமம் எண்.3 நெருப்பெரிச்சல் மற்றும் ஊத்துக்குளி வாட்டத்தின் கிராமம் எண்.37 சர்க்கார் பெரியபாளையம் ஆகியவை சந்திக்கும் முச்சந்திப்பில் தொடங்கி, கிராம எண்.3, நெருப்பெரிச்சல் கிராமத்தின் நில அளவை புல எண்கள் 458,457,456,448 மற்றும் 447 ஆகியவற்றின் தெற்குப் பக்க வழியாக கிழக்கு நோக்கியும் பின்னர் கிராம எண்.3, நெருப்பெரிச்சல் கிராமத்தின் நில அளவை புல எண்கள் 445,444, 451 மற்றும் 462 ஆகியவற்றின் கிழக்குப் பக்க வழியாக வடக்கு நோக்கியும், பின்னர் கிராம எண்.3, நெருப்பெரிச்சல் கிராமத்தின் நில அளவை புல எண்கள் 442, 441 மற்றும் 440 ஆகியவற்றின் தெற்கு பக்க வழியாக கிழக்கு நோக்கியும் கிராம எண்.3, நெருப்பெரிச்சல் கிராமத்தின் நில அளவை புல எண்கள் 437, 436 மற்றும் 433 ஆகியவற்றின் மேற்கு பக்க வழியாக தெற்கு நோக்கி செல்கிறது.

கிழக்கு: இந்த எல்லையானது, பொதுவாக கிராம எண்.37, சர்க்கார் பெரியபாளையத்தின் நில அளவை புல எண்கள் 123,122,121 மற்றும் 39 ஆகியவற்றின் மேற்கு பக்க வழியாக தெற்கு நோக்கிச் செல்கிறது.

தெற்கு: இந்த எல்லையானது, கிராம எண்.37, சர்க்கார் பெரியபாளையத்தின் நில அளவை புல எண்கள் 38,36,35,31,30,21,20,19,18,17 மற்றும் 16 ஆகியவற்றின் வடக்கு பக்கமாக மேற்கு நோக்கி செல்கிறது.

மேற்கு: பின்னர் இந்த எல்லையானது, பொதுவாக, கிராம எண்.37 சர்க்கார் பெரியபாளையத்தின் நில அளவை புல எண்கள் 9,5,4,3 மற்றும் 2 மற்றும் கிராம எண்.7, மண்ணரை கிராம எல்லையின் நில அளவை புல எண்கள் 2, 1 மற்றும் 13 ஆகியவற்றின் கிழக்கு பக்க வழியாக வடக்கு நோக்கி சென்று ஆரம்ப எல்லையை அடைகிறது.

சர்க்கார் பெரியபாளையம் குளம் (நஞ்சராயன் குளம்), 11° 8' 5" வடக்கு மற்றும் 77° 22' 59" கிழக்கு பகுதியில் அமைந்துள்ள ஒரு பெரிய அளவிலான ஈரநிலமாகும். இது தமிழ்நாட்டின் திருப்பூர் மாவட்டத்தின் ஊத்துக்குளி பகுதியின் வடகிழக்கு பகுதியிலும் திருப்பூர் வடக்கு வட்டங்களிலும் அமைந்துள்ளது.

வன உயிரின பாதுகாப்புச் சட்டம் 1972 பிரிவு 19-ன்படி செய்யப்பட்ட அறிவிக்கைகளின் மீது எந்தவொரு நபரும் ஏதேனும் உரிமம் இருப்பின் அதன் விவரத்தினை மாவட்ட ஆட்சியர், திருப்பூர் அவர்களுக்கு இவ்வறிவிக்கை நிரகடணப்படுத்தப்பட்ட நாளிலிருந்து 2 மாதத்திற்குள் (09.05.2023-லிருந்து) விண்ணப்பிக்கலாம். அதன் மாதிரி படிவம் B (வன உயிரின பாதுகாப்புச் சட்டம் 1972, விதி 26-ன்படி) இத்துடன் இணைக்கப்படுகிறது (அரசாணை எண். 154, சுற்றுச்சூழல், காலநிலை மற்றும் வனத்துறை (வனம் - V), நாள். 12.09.2022).

அட்டவணைவில் குறிப்பிடப்பட்ட பகுதியினை நஞ்சராயன் பறவைகள் சரணாலயம் என வன உயிரின பாதுகாப்புச் சட்டம் 1972-ன்படி அறிவிக்கை செய்யப்பட்ட தேதியிலிருந்து அச்சட்டத்தினுள்ள விதி மற்றும் சட்டங்கள் நடைமுறைப்படுத்தப்படும்.

வன உயிரின பாதுகாப்புச்சட்டம் 1972, பிரிவு 27-சரணாலயத்திற்குள் நுழைவதற்கான வரையறைகள் கீழே கண்டவாறு.

1. எந்தவொரு நபரும்

(அ) பணியிலுள்ள பொது பணியாளர்கள் தவிர

(ஆ) தலைமை வன உயிரின காப்பாளர் அல்லது அங்கீகரிக்கப்பட்ட அலுவலரின் முன் அனுமதி பெறப்பட்ட பிறகே நுழைய அனுமதிக்கப்படும்.

(இ) சரணாலயத்திற்குள் உள்ள அசையா சொத்தின்மீது உரிமையுள்ள நபர் தவிர

(ஈ) சரணாலயத்திற்குள் அனுமதிக்கப்பட்ட பொது வழித்தடத்தினை பயன்படுத்தலாம்.

(உ) பிரிவு 28-ன் கீழ் வழங்கப்பட்ட அனுமதி பத்திரத்தின் நிபந்தனைகளுக்கு உட்பட்டது தவிர, உட்கூறு (அ), (ஆ) அல்லது (இ)-ல் குறிப்பிடப்பட்டுள்ளவர்களை சார்ந்தவர்கள் சரணாலயத்திற்குள் நுழையவும், வசிக்கவும் அனுமதிக்கப்படுவர்.

2. ஒவ்வொரு நபரும் அவர் சரணாலயத்தில் வசிக்கும் காலம் வரை (அ) சரணாலயத்தில் இச்சட்டத்திற்கு எதிரான குற்றத்தை தடுக்க கட்டுப்பாட்டவர்.

3. இந்திய தண்டனை விதித் தொகுப்பு 1860 (பிரிவு 45)-ன்படி சரணாலயத்தின் எந்த எல்லைக்குறிக்கும் பாதிப்பு ஏற்படுத்தும் எண்ணத்துடன் அல்லது தவறான ஆதாயத்தை ஏற்படுத்தும் எண்ணத்துடன், எந்தவொரு நபரும் எல்லைக்குறியை மாற்றவோ, அழிக்கவோ, நகர்த்தவோ அல்லது குறைக்கவோ கூடாது.

4. எந்தவொரு நபரும், சரணாலயத்தின் எந்த வன உயிரினத்தையும் கிண்டல் செய்யவோ அல்லது துன்புறுத்தவோ அல்லது சரணாலயத்தை அகத்தம் செய்யவோ கூடாது.

**வண உயிரின பாதுகாப்புச்சட்டம் 1972, பிரிவு 29-தடை செய்யப்பட்ட
சரணாலயத்தில் அனுமதியின்றி அழிவு போன்றவை.**

தலைமை வண உயிரின காப்பாளரால் வழங்கப்பட்ட அனுமதியின்றி அல்லது அனுமதிக்கப்பட்ட நபர்கள் தவிர, எந்தவொரு நபரும் சரணாலயத்திலிருந்து வண விளைபொருட்கள் உட்பட எந்த வண உயிரினத்தையும் அழிக்கவோ, சுயநலத்திற்காக பயன்படுத்தவோ அல்லது அப்புறப்படுத்தவோ, அல்லது எவ்வகை செயலினாலும் எந்த வண விலங்கின் வாழ்விடத்தையும் அழிக்கவோ அல்லது சேதப்படுத்தவோ அல்லது மாற்றவோ, அல்லது சரணாலயத்திற்குள் அல்லது வெளியே நீரோட்டத்தை மாற்றவோ அல்லது நிறுத்தவோ அல்லது அதிகரிக்கவோ கூடாது. சரணாலயத்திலிருந்து வண உயிரினங்களை அகற்றுவதற்கான வண உயிரின வாரியத்துடன் கலந்தாலோசித்து மாநில அரசு திருப்தி அடையாவிட்டால் அத்தகைய அனுமதி வழங்கப்பட மாட்டாது. சரணாலயத்திலுள்ள வணவிலங்குகளின் முன்னேற்றம் மற்றும் சிறந்த மேலாண்மைக்கு, வண விலங்குகளை சரணாலயத்திலிருந்து அகற்றுவது அல்லது சரணாலயத்திற்குள் அல்லது வெளியே நீரோட்டத்தை மாற்றுவது அவசியம் என கருதினால் அத்தகைய அனுமதி வழங்குவதற்கு அங்கீகாரம் வழங்கப்படும். அச்சமயம் சரணாலயத்திலிருந்து அகற்றப்படும் வண்பொருட்கள் சரணாலயம் அல்லது அதைச்சுற்றி வாழும் மக்களின் அவசியமான தேவைக்கு பயன்படுத்தலாம். மேலும் அவை எந்தவொரு வணிக நோக்கத்திற்காக பயன்படுத்தக்கூடாது.

**வண உயிரின பாதுகாப்புச்சட்டம் 1972, பிரிவு 30-ன் படி
தீ ஏற்படுத்துதல் தடைசெய்யப்படுகிறது.**

சரணாலயத்திற்கு ஆபத்து ஏற்படுத்தும் வகையில் எந்தவொரு நபரும் சரணாலயத்திற்கு தீ வைக்கவோ, தீ எரிய வைக்கவோ அல்லது தீ எரியவோ விடக் கூடாது.

**வண உயிரின பாதுகாப்புச்சட்டம் 1972, பிரிவு 31-ன் படி ஆயுதத்துடன்
சரணாலயத்திற்குள் நுழைய தடை.**

தலைமை வண உயிரின காப்பாளர் அல்லது அங்கீகரிக்கப்பட்ட அலுவலரின் எழுத்துபூர்வமான அனுமதி இல்லாமல் எந்தவொரு நபரும் எந்தவித ஆயுதத்துடனும் சரணாலயத்திற்குள் பிரவேசிக்கக் கூடாது.

**வண உயிரின பாதுகாப்புச்சட்டம் 1972, பிரிவு 32-ன் படி
தீங்கு விளைவிக்கும் பொருட்களுக்கு தடை.**

சரணாலயத்திலுள்ள வண உயிரினத்திற்கு தீங்கு விளைவிக்கக் கூடிய அல்லது ஆபத்து விளைவிக்கக்கூடிய இரசாயனங்கள், வெடிமருந்துகள் அல்லது எந்தவொரு பொருட்களையும் சரணாலயத்திற்குள் பயன்படுத்தக் கூடாது.

உயிரின பாதுகாப்புச்சட்டம் 1972, பிரிவு 33-ன் படி சரணாலயங்களுக்கான கட்டுப்பாடு

தலைமை வன உயிரின காப்பாளர் அவைத்து சரணாலயங்களையும் கட்டுப்படுத்தும், நிர்வகிக்கும் மற்றும் பராமரிக்கும் அதிகாரம் பெற்றவர். அந்த நோக்கத்திற்காக எந்த சரணாலயத்தின் எல்லைக்குள்ளும்,

(அ) தலைமை வன உயிரின காப்பாளர், சரணாலயத்தின் தேவைக்கு அவசியம் என கருதினால், அத்தகைய சாலைகள், பாலங்கள், கட்டிடங்கள், வேலிகள் அல்லது தடை வாய்க்கால்கள் மற்றும் அவை போன்ற பிற பணிகளையும் கட்டலாம்.

இருப்பினும், தேசிய வாரியத்தின் முன் ஒப்புதல் இல்லாமல், சரணாலயத்திற்குள் வணிக சுற்றுலா லாட்கள், ஹோட்டல்கள், உயிரியல் பூங்காக்கள் மற்றும் சுற்றுலா பூங்காக்கள் ஆகியவற்றை கட்ட இயலாது.

(ஆ) சரணாலயத்தினுள்ள வன உயிரினங்களின் பாதுகாப்பையும், சரணாலயத்தின் பாதுகாப்பு மற்றும் அதினுள்ள வன உயிரினங்களின் பாதுகாப்பையும் உறுதி செய்யும் நடவடிக்கைகளை எடுக்க வேண்டும்.

(இ) வன உயிரினங்களின் வாழ்விடத்தை மேம்படுத்துவதற்கு அவசியம் என தலைமை வன உயிரின காப்பாளர் கருதினால், வன உயிரினங்களின் நலன்களுக்காக அத்தகைய நடவடிக்கைகளை எடுக்கலாம்.

(ஈ) தலைமை வன உயிரின காப்பாளர், வன உயிரினங்களின் நலன்களுக்கு ஏற்ப சரணாலயத்தை ஒழுங்குபடுத்தலாம், கட்டுப்படுத்தலாம் அல்லது தடை செய்யலாம்.

வன உயிரின பாதுகாப்புச்சட்டம் 1972, பிரிவு 33A-ன் படி கால்நடைகளின் நோய்த்தடுப்பு

சரணாலயத்தில் அல்லது சரணாலயத்திலிருந்து 5 கி.மீ தூரத்திற்குள் உள்ள கால்நடைகளுக்கு தொற்றுநோய்களுக்கு எதிரான நோய்த்தடுப்புக்கு உரிய முறையில் பரிந்துரைக்கப்பட்ட வகையில் நடவடிக்கைகளை தலைமை வன உயிரின காப்பாளர் மேற்கொள்வார்.

எந்தவொரு நபரும், சரணாலயத்தில் எந்தவொரு கால்நடையையும் நோய்த்தடுப்பு செய்யாமல் எடுத்துக்கொள்வோ, எடுத்துக்கொள்ள காரணமாகவோ அல்லது மேய்க்கவோ கூடாது.

வன உயிரின பாதுகாப்புச்சட்டம் 1972 பிரிவு-34 - சில நபர்கள் ஆயுதம் வைத்துக் கொள்வதற்கான பதிவு

- (1) எந்தவொரு பகுதியும் சரணாலயமாக அறிவிக்கை செய்யப்பட்ட மூன்று மாதத்திற்குள், சரணாலயத்திற்குள் அல்லது அவ்வாறான சரணாலயத்திலிருந்து 10 கி.மீ.க்குள் வசிக்கும் எந்தவொரு நபரும், ஆயுதச்சட்டம் 1959 (1959-ன் 54)-ன் கீழ் ஆயுதங்கள் வைத்திருப்பதற்காக வழங்கப்பட்ட உரிமம் வைத்திருந்தாலும் அல்லது அச்சட்டத்தின் விதிமுறையிலிருந்து விலக்கு பெற்று ஆயுதம் வைத்திருந்தாலும், குறிப்பிட்ட படிவத்தில், குறிப்பிட்ட நோய்த்தடுப்பு, குறிப்பிட்ட கட்டணத்தைச் செலுத்தி தலைமை வன உயிரின காப்பாளர் அல்லது அங்கீகரிக்கப்பட்ட அலுவலருக்கு தன் பெயரை பதிவு செய்ய விண்ணப்பிக்க வேண்டும்.

- (2) தலைமை வன உயிரின காப்பாளர் அல்லது அங்கீகரிக்கப்பட்ட அலுவலர், வன உயிரின பாதுகாப்புச் சட்டம் 1972 பிரிவு-34, உப பிரிவு (1)-ன்படி விண்ணப்பத்தை பெற்றவுடன் பரிந்துரைக்கப்பட்ட முறையில் விண்ணப்பதாரரின் பெயரை பதிவு செய்ய வேண்டும்.
- (3) தலைமை வன உயிரின காப்பாளரின் முன் அனுமதியின்றி, சரணாலயத்தைக்கற்றி 10 கி.மீ. ஆரத்திற்குள் (வட்டத்திற்குள்) புதிய உரிமம் ஏதும் ஆயுதச்சட்டம் 1959 (1959-ன் 54)-ஈழ வழங்கப்பட மாட்டாது.

**வன உயிரின பாதுகாப்புச்சட்டம் 1972 பிரிவு-34-A-ஆக்கிரமிப்புகளை
அகற்றுவதற்கான அதிகாரம்**

- (1) தற்போதைக்கு எந்த சட்டத்திலும், எது அடங்கியிருந்தாலும், உதவி வனப்பாதுகாவலர் நிலைக்கு குறையாத நிலையிலிருக்கும் எந்தவொரு அலுவலரும்,
- (அ) இந்த சட்டத்தின் விதிகளுக்கு முரணாக, அரசு நிலத்தை யார் அங்கீகரிக்கப்படாத முறையில் ஆக்கிரமித்திருந்தாலும், அந்த நபரை சரணாலயத்திலிருந்து அல்லது தேசிய பூங்காவிலிருந்து அகற்றலாம்.
- (ஆ) எந்தவொரு சரணாலயம் அல்லது தேசியபூங்காவிற்குள் உள்ள அரசு நிலத்தில் அங்கீகரிக்கப்படாத அமைப்புகள், கட்டிடங்கள் அல்லது கட்டுமானங்கள் எழுப்பப்பட்டிருந்தாலும், துணை வனப்பாதுகாவலர் நிலைக்கு குறையாத நிலையிலிருக்கும் எந்தவொரு அலுவலரின் ஆணைப்படி அவற்றை அகற்றலாம். மேலும் அந்த நபரின் பொருட்கள், கருவிகள் மற்றும் அவருக்கு உரிமையானவற்றை பறிமுதல் செய்யலாம்.
- கிருப்பினும் பாதிக்கப்பட்ட நபர் இது குறித்து அறிந்து கொள்வதற்கு ஒரு வாய்ப்பு வழங்காமல் அத்தகைய ஆணையை வழங்கக் கூடாது.
- (2) இந்தச் சட்டத்தின் வேறு எந்த விதிமுறையையும் மீறியதற்காக விதிக்கப்படக்கூடிய வேறு எந்த அபராதமும் கிருந்த போதிலும் இந்த பிரிவின் விதிகள் பொருந்தும்.

திருப்பூர்,
09.05.2023.

சு. வினீத்,
மாவட்ட ஆட்சியர்,
திருப்பூர் மாவட்டம்.

தமிழ்நாடு எழுதுபொருள் மற்றும் அச்சத்துறை இயக்குநரால் சேலம் அரசினர் கிணை அச்சகத்தில்
அச்சிடப்பட்டு மாவட்ட ஆட்சியரால் வெளியிடப்பட்டது.

Annexure II

Proposal to declare the Nanjarayan Tank as Bird Sanctuary



Most Immediate



**Environment, Climate Change and
Forests (FR.5) Department,
Secretariat, Chennai-9.
Phone:- 044-25671511
E-mail:- eccfd@tn.gov.in**

Letter No.10908/FR.5/2021- 9, dated: 23.08.2022

From
Tmt.Supriya Sahu, I.A.S.,
Additional Chief Secretary to Government.

To
The Additional Chief Secretary to Government,
Water Resource Department, Secretariat Chennai-09.(w.e)
The Principal Chief Conservator of Forests
and Chief Wildlife warden,
Chennai-15. (w.e)
The District Collector, Tiruppur. (w.e)
The Conservator of Forests and Field Director,
Anamalai Tiger Reserve,Coimbatore. (w.e)
The Deputy Director, Anamalai Tiger Reserve,
Tiruppur Division, Udumalapet. (w.e)

Sir,

Sub: Forests – Wildlife – Proposal to declare the Nanjarayan
Tank as Bird Sanctuary - Regarding.

Ref: 1. From the Principal Chief Conservator of Forests
and Chief Wildlife Warden letter No.WL5/
20062/2014 dated 23.04.2022 and 28.06.2022.
2. Government letter No.10908/FR-5/2021-7 dated:
16.08.2022

I am directed to enclose herewith the approved copy of the minutes of the meeting held on 18.08.2022 under the chairmanship of Chief Secretary regarding declaration of Nanjarayan Tank as Bird Sanctuary for necessary action and request you to send your action taken report in this regard to Government, immediately.

Yours faithfully,

P. Selvi
24.8.22

for Additional Chief Secretary to Government.

8/4

List of participants attended the meeting held on 18.08.2022 at 3.30 PM under the Chairmanship of Chief Secretary regarding declaration of Nanjarayan Tank as Bird Sanctuary

1. The Additional Chief Secretary to Government, Environment, Climate Change and Forest Department, Chennai-9.
2. The Principal Chief Conservator of Forests and Chief Wildlife Warden, Chennai-15.
3. The Special Secretary, Water Resource Department, Secretariat, Chennai-9.
4. The District Collector, Tiruppur. (through video conference)
5. The Conservator of Forests and Field Director, Anamalai Tiger Reserve, Pollachi.
6. The Deputy Director, Anamalai Tiger Reserve, Tiruppur Division, Udumalpet.


Minutes of the meeting held on 18.08.2022 at 3.30 PM under the Chairmanship of Chief Secretary regarding declaration of Nanjarayan Tank as Bird Sanctuary

A meeting on Notifying Nanjarayan Tank as Bird Sanctuary was conducted under the chairmanship of Chief Secretary at 3.30 PM on 18.08.2022 at Chief Secretary Conference Hall. The list of participants is enclosed. The District Forest Officer, Tiruppur District made a presentation on Nanjarayan Tank and it's significance in bird conservation. After deliberations, the following decisions were made in the meeting.

1. Commercial exploitation of fishing in the tank would lead to depletion of food for birds. Therefore, commercial fishing shall not be permitted in the tank.
2. The Forest Department may explore the possibility of converting the site into an attractive tourism placeto enhance the revenue sources.
3. The Water Resources Department requested for a joint inspection along with Forest Officials and District Collector, to sort out any issues before notification.
4. It was clarified that the Notification shall not alter the land ownership of Water Resources Department. The Water Resources Department can carry out any their developmental and routine maintenance activities without any hinderance. District Administration can render necessary financial assistance for any such activities.
5. The District Collector, Tiruppur informed that few court cases are pending before National Green Tribunal related to sewage treatment of inflow water. It was decided to depute a team of Engineers from Tamil Nadu Pollution Control Board to inspect the area along with officials of WRD for suggesting necessary pollution control measures.
6. After notification of the Site under Section 18 of the Wild Life (Protection) Act, 1972, the District Collector shall receive claims on rights over the land and he will settle all rights before notifying under Sec 26 of the Act.

V. Irai Anbu,
Chief Secretary to Government

//True copy//

P. Selvi
24.8.22
Section Officer


Annexures III
Checklist of Birds in Nanjarayan Bird Sanctuary

Sl. No	Common Name	Scientific Name	Conservation status
1	Lesser Whistling-Duck	<i>Dendrocygna javanica</i>	LC
2	Northern Pintail	<i>Anas acuta</i>	LC
3	Eurasian Marsh-Harrier	<i>Circus aeruginosus</i>	LC
4	Montagu's Harrier	<i>Circus pygargus</i>	LC
5	Shikra	<i>Accipiter badius</i>	LC
6	Black Kite	<i>Milvus migrans</i>	LC
7	Brahminy Kite	<i>Haliastur indus</i>	LC
8	Barn Owl	<i>Tyto alba</i>	LC
9	Spotted Owlet	<i>Athene brama</i>	LC
10	Short-eared Owl	<i>Asio flammeus</i>	LC
11	Eurasian Hoopoe	<i>Upupa epops</i>	LC
12	Common Kingfisher (Small Blue Kingfisher)	<i>Alcedo atthis</i>	LC
13	Green-winged Teal (Common Teal)	<i>Anas crecca</i>	LC
14	White-throated Kingfisher	<i>Halcyon smyrnensis</i>	LC
15	Pied Kingfisher	<i>Ceryle rudis</i>	LC
16	Asian Green Bee-eater	<i>Merops orientalis</i>	LC
17	Blue-tailed Bee-eater	<i>Merops philippinus</i>	LC
18	Indian Roller	<i>Coracias benghalensis</i>	LC
19	Coppersmith Barbet	<i>Psilopogon haemacephalus</i>	LC
20	White-cheeked Barbet (Small Green Barbet)	<i>Psilopogon viridis</i>	LC
21	Black-rumped Flameback (Lesser Goldenbacked Woodpecker)	<i>Dinopium benghalense</i>	LC
22	Eurasian Kestrel (Common Kestrel)	<i>Falco tinnunculus</i>	LC
23	Red-necked Falcon	<i>Falco chicquera</i>	NT
24	Indian Peafowl	<i>Pavo cristatus</i>	LC
25	Rose-ringed Parakeet	<i>Psittacula krameri</i>	LC
26	Indian Golden Oriole	<i>Oriolus kundoo</i>	LC
27	Ashy Woodswallow	<i>Artamus fuscus</i>	LC
28	Common Woodshrike	<i>Tephrodornis pondicerianus</i>	LC
29	Common Iora	<i>Aegithina tiphia</i>	LC
30	Black Drongo	<i>Dicrurus macrocercus</i>	LC
31	Ashy Drongo	<i>Dicrurus leucophaeus</i>	LC
32	Indian Paradise-Flycatcher	<i>Terpsiphone paradisi</i>	LC
33	Brown Shrike	<i>Lanius cristatus</i>	LC
34	Bay-backed Shrike	<i>Lanius vittatus</i>	LC
35	Grey Francolin	<i>Francolinus pondicerianus</i>	LC
36	Long-tailed Shrike	<i>Lanius schach</i>	LC
37	Rufous Treepie	<i>Dendrocitta vagabunda</i>	LC
38	House Crow	<i>Corvus splendens</i>	LC
39	Large-billed Crow	<i>Corvus macrorhynchos</i>	LC
40	Rufous-tailed Lark	<i>Ammomanes phoenicura</i>	LC
41	Ashy-crowned Sparrow-Lark (Ashy-crowned Finch-Lark)	<i>Eremopterix griseus</i>	LC
42	Jerdon's Bushlark	<i>Mirafra affinis</i>	LC

43	Oriental Skylark	<i>Alauda gulgula</i>	LC
44	Not Evaluated Tailorbird	<i>Orthotomus sutorius</i>	LC
45	Ashy Prinia	<i>Prinia socialis</i>	LC
46	Little Grebe	<i>Tachybaptus ruficollis</i>	LC
47	Plain Prinia	<i>Prinia inornata</i>	LC
48	Zitting Cisticola	<i>Cisticola juncidis</i>	LC
49	Thick-billed Warbler	<i>Arundinax aedon</i>	LC
50	Booted Warbler	<i>Iduna caligata</i>	LC
51	Sykes's Warbler	<i>Iduna rama</i>	LC
52	Paddyfield Warbler	<i>Acrocephalus agricola</i>	LC
53	Blyth's Reed Warbler	<i>Acrocephalus dumetorum</i>	LC
54	Clamorous Reed Warbler (Indian Great Reed Warbler)	<i>Acrocephalus stentoreus</i>	LC
55	Barn Swallow	<i>Hirundo rustica</i>	LC
56	Wire-tailed Swallow	<i>Hirundo smithii</i>	LC
57	Rock Pigeon (Blue Rock Pigeon)	<i>Columba livia</i>	LC
58	Red-rumped Swallow	<i>Cecropis daurica</i>	LC
59	Streak-throated Swallow	<i>Petrochelidon fluvicola</i>	LC
60	Red-vented Bulbul	<i>Pycnonotus cafer</i>	LC
61	Greenish Warbler	<i>Phylloscopus trochiloides</i>	LC
62	Lesser Whitethroat	<i>Sylvia curruca</i>	LC
63	Large Grey Babbler	<i>Turdoides malcolmi</i>	LC
64	Yellow-billed Babbler	<i>Turdoides affinis</i>	LC
65	Rosy Starling	<i>Pastor roseus</i>	LC
66	Brahminy Starling	<i>Sturnus pagodarum</i>	LC
67	Chestnut-tailed Starling	<i>Sturnus malabaricus</i>	LC
68	Eurasian Collared-Dove	<i>Streptopelia decaocto</i>	LC
69	Not Evaluated Myna	<i>Acridotheres tristis</i>	LC
70	Indian Robin	<i>Saxicoloides fulicatus</i>	LC
71	Oriental Magpie-Robin	<i>Copsychus saularis</i>	LC
72	Verditer Flycatcher	<i>Eumyias thalassinus</i>	LC
73	Bluethroat	<i>Luscinia svecica</i>	LC
74	Siberian Stonechat (Not Evaluated Stonechat)	<i>Saxicola maurus</i>	Not Evaluated
75	Pied Bushchat	<i>Saxicola caprata</i>	LC
76	Pale-billed Flowerpecker	<i>Dicaeum erythrorhynchos</i>	LC
77	Purple-rumped Sunbird	<i>Leptocoma zeylonica</i>	LC
78	Purple Sunbird	<i>Cinnyris asiaticus</i>	LC
79	Red Collared-Dove (Red Turtle-Dove)	<i>Streptopelia tranquebarica</i>	LC
80	Loten's Sunbird (Long-billed Sunbird)	<i>Cinnyris lotenius</i>	LC
81	Streaked Weaver	<i>Ploceus manyar</i>	LC
82	Baya Weaver	<i>Ploceus philippinus</i>	LC
83	Indian Silverbill (White-throated Munia)	<i>Euodice malabarica</i>	LC
84	Scaly-breasted Munia (Spotted Munia)	<i>Lonchura punctulata</i>	LC
85	White-rumped Munia	<i>Lonchura striata</i>	LC
86	Tricolored Munia (Black-headed Munia)	<i>Lonchura malacca</i>	LC
87	Red Avadavat	<i>Amandava amandava</i>	LC
88	House Sparrow	<i>Passer domesticus</i>	LC

89	Yellow-throated Sparrow (Chestnut-shouldered Petronia)	<i>Gymnoris xanthocollis</i>	LC
90	Spotted Dove	<i>Streptopelia chinensis</i>	Not Evaluated
91	Grey Wagtail	<i>Motacilla cinerea</i>	LC
92	Western Yellow Wagtail	<i>Motacilla flava</i>	LC
93	Citrine Wagtail	<i>Motacilla citreola</i>	LC
94	White-browed Wagtail (Large Pied Wagtail)	<i>Motacilla maderaspatensis</i>	LC
95	White Wagtail	<i>Motacilla alba</i>	LC
96	Paddyfield Pipit	<i>Anthus rufulus</i>	LC
97	Tawny Pipit	<i>Anthus campestris</i>	LC
98	Tree Pipit	<i>Anthus trivialis</i>	LC
99	Not Evaluated Rosefinch	<i>Carpodacus erythrinus</i>	LC
100	Laughing Dove (Little Brown Dove)	<i>Streptopelia senegalensis</i>	LC
101	Bar-headed Goose	<i>Anser indicus</i>	LC
102	Greater Coucal	<i>Centropus sinensis</i>	LC
103	Blue-faced Malkoha	<i>Phaenicophaeus viridirostris</i>	LC
104	Pied Cuckoo (Jacobin Cuckoo)	<i>Clamator jacobinus</i>	Not Evaluated
105	Asian Koel	<i>Eudynamys scolopaceus</i>	Not Evaluated
106	Banded Bay Cuckoo	<i>Cacomantis sonneratii</i>	LC
107	Grey-bellied Cuckoo	<i>Cacomantis passerinus</i>	LC
108	Not Evaluated Hawk-Cuckoo	<i>Hierococcyx varius</i>	LC
109	Not Evaluated Cuckoo	<i>Cuculus canorus</i>	LC
110	Indian Nightjar	<i>Caprimulgus asiaticus</i>	LC
111	Brown-backed Needletail	<i>Hirundapus giganteus</i>	LC
112	Ruddy Shelduck (Brahminy Duck)	<i>Tadorna ferruginea</i>	LC
113	Alpine Swift	<i>Tachymarptis melba</i>	LC
114	Little Swift (Indian House Swift)	<i>Apus affinis</i>	LC
115	Asian Palm Swift	<i>Cypsiurus balasiensis</i>	LC
116	Eurasian Moorhen	<i>Gallinula chloropus</i>	LC
117	Eurasian Coot	<i>Fulica atra</i>	LC
118	Grey-headed Swamphen (Purple Swamphen)	<i>Porphyrio poliocephalus</i>	Not Evaluated
119	Watercock	<i>Gallicrex cinerea</i>	LC
120	White-breasted Waterhen	<i>Amaurornis phoenicurus</i>	LC
121	Ruddy-breasted Crake	<i>Zapornia fusca</i>	LC
122	Baillon's Crake	<i>Zapornia pusilla</i>	LC
123	Cotton Pygmy-Goose (Cotton Teal)	<i>Nettapus coromandelianus</i>	LC
124	Indian Thick-knee (Indian Stone-curlew)	<i>Burhinus indicus</i>	LC
125	Black-winged Stilt	<i>Himantopus himantopus</i>	LC
126	Pacific Golden-Plover	<i>Pluvialis fulva</i>	LC
127	Yellow-wattled Lapwing	<i>Vanellus malabaricus</i>	LC
128	Red-wattled Lapwing	<i>Vanellus indicus</i>	LC
129	Lesser Sand-Plover	<i>Charadrius mongolus</i>	LC
130	Kentish Plover	<i>Charadrius alexandrinus</i>	LC
131	Little Ringed Plover	<i>Charadrius dubius</i>	LC

132	Greater Painted-Snipe	<i>Rostratula benghalensis</i>	LC
133	Pheasant-tailed Jacana	<i>Hydrophasianus chirurgus</i>	LC
134	Garganey	<i>Spatula querquedula</i>	LC
135	Bronze-winged Jacana	<i>Metopidius indicus</i>	LC
136	Eurasian Curlew	<i>Numenius arquata</i>	NT
137	Black-tailed Godwit	<i>Limosa limosa</i>	NT
138	Ruff	<i>Calidris pugnax</i>	LC
139	Temminck's Stint	<i>Calidris temminckii</i>	LC
140	Dunlin	<i>Calidris alpina</i>	LC
141	Little Stint	<i>Calidris minuta</i>	LC
142	Not Evaluated Snipe	<i>Gallinago gallinago</i>	LC
143	Not Evaluated Sandpiper	<i>Actitis hypoleucos</i>	LC
144	Green Sandpiper	<i>Tringa ochropus</i>	LC
145	Northern Shoveler	<i>Spatula clypeata</i>	LC
146	Not Evaluated Greenshank	<i>Tringa nebularia</i>	LC
147	Marsh Sandpiper	<i>Tringa stagnatilis</i>	LC
148	Wood Sandpiper	<i>Tringa glareola</i>	LC
149	Not Evaluated Redshank	<i>Tringa totanus</i>	LC
150	Barred Buttonquail	<i>Turnix suscitator</i>	LC
151	Indian Courser	<i>Cursorius coromandelicus</i>	LC
152	Small Pratincole	<i>Glareola lactea</i>	LC
153	Slender-billed Gull	<i>Chroicocephalus genei</i>	LC
154	Brown-headed Gull	<i>Chroicocephalus brunnicephalus</i>	LC
155	Whiskered Tern	<i>Chlidonias hybrida</i>	LC
156	Gadwall	<i>Mareca strepera</i>	LC
157	River Tern	<i>Sterna aurantia</i>	VU
158	Asian Openbill	<i>Anastomus oscitans</i>	LC
159	Black Stork	<i>Ciconia nigra</i>	LC
160	Asian Woolly-necked Stork	<i>Ciconia episcopus</i>	NT
161	Painted Stork	<i>Mycteria leucocephala</i>	NT
162	Oriental Darter	<i>Anhinga melanogaster</i>	NT
163	Little Cormorant	<i>Microcarbo niger</i>	LC
164	Great Cormorant	<i>Phalacrocorax carbo</i>	LC
165	Indian Cormorant (Indian Shag)	<i>Phalacrocorax fuscicollis</i>	LC
166	Spot-billed Pelican	<i>Pelecanus philippensis</i>	NT
167	Eurasian Wigeon	<i>Mareca penelope</i>	LC
168	Yellow Bittern	<i>Ixobrychus sinensis</i>	LC
169	Black Bittern	<i>Ixobrychus flavicollis</i>	LC
170	Grey Heron	<i>Ardea cinerea</i>	LC
171	Purple Heron	<i>Ardea purpurea</i>	LC
172	Great Egret	<i>Ardea alba</i>	LC
173	Intermediate Egret	<i>Ardea intermedia</i>	LC
174	Little Egret	<i>Egretta garzetta</i>	LC
175	Western Reef-Heron (Western Reef-Egret)	<i>Egretta gularis</i>	LC
176	Cattle Egret	<i>Bubulcus ibis</i>	LC
177	Indian Pond-Heron	<i>Ardeola grayii</i>	LC
178	Indian Spot-billed Duck	<i>Anas poecilorhyncha</i>	LC
179	Striated Heron (Little Heron)	<i>Butorides striata</i>	LC

180	Black-crowned Night-Heron	<i>Nycticorax nycticorax</i>	LC
181	Glossy Ibis	<i>Plegadis falcinellus</i>	LC
182	Black-headed Ibis	<i>Threskiornis melanocephalus</i>	NT
183	Eurasian Spoonbill	<i>Platalea leucorodia</i>	LC
184	Black-winged Kite (Black-shouldered Kite)	<i>Elanus caeruleus</i>	LC
185	Oriental Honey-buzzard (Crested Honey Buzzard)	<i>Pernis ptilorhynchus</i>	LC
186	Short-toed Snake-Eagle	<i>Circaetus gallicus</i>	LC
187	Booted Eagle	<i>Hieraaetus pennatus</i>	LC
188	White-eyed Buzzard	<i>Butastur teesa</i>	LC

Annexures IV

Checklist of flora in Nanjarayan Bird Sanctuary

Sl. No	Scientific Names	Local name	Conservation status
Trees			
1	<i>Ailanthus excelsa</i>	Pi- Nari	Not Evaluated
2	<i>Azadirachta indica</i>	Veppamaram	LC
3	<i>Borassus flabellifer</i>	Panai	EN
4	<i>Holoptelea intergrifolia</i>	Aaya	Not Evaluated
5	<i>Senegalia senegal</i>	Karuvel	Not Evaluated
6	<i>Vachellia nilotica</i>	Karuvel	LC
7	<i>Vachellia tortilis</i>	Kudaivel	LC
8	<i>Parkinsonia aculeata</i>	Siniatu mana	LC
9	<i>Prosopis juliflora</i>	Semai karuvel	Not Evaluated
Shrubs			
10	<i>Calotropis gigantea</i>	Yerukku	Not Evaluated
11	<i>Cassia auriculata</i>	Aavarai	Not Evaluated
12	<i>Croton klotzschiana</i>	Attu poodu	Not Evaluated
13	<i>Ipomoea carnea</i>	Velikathan	Not Evaluated
14	<i>Jatropha curcas</i>	Kattamanakku	LC
15	<i>Jatropha gossypifolia</i>	Kattamanakku	Not Evaluated
16	<i>Leucaena latisiliquum</i>	PeriyaThagarai	Not Evaluated
17	<i>Ricinus communis</i>	Amanakku	Not Evaluated
18	<i>Sesbania sesban</i>	Sithakathi, Karumsembai	LC
19	<i>Ziziphus nummularia</i>	NariIlanthai	Not Evaluated
20	<i>Abutilon hirtum</i>	Thuthi	Not Evaluated
21	<i>Abutilon indicum</i>	Thuthi	Not Evaluated
22	<i>Cassia occidentalis</i>	Pei Avarai	Not Evaluated
23	<i>Croton bonplandianum</i>	Rail Poondu	Not Evaluated
24	<i>Datura innoxia</i>	Karu Umathai	Not Evaluated
25	<i>Datura metel</i>	Umathan	Not Evaluated
26	<i>Sida cordifolia</i>	Sithamutti, Kurunthoti	Not Evaluated
Herbs			
27	<i>Acanthospermum hispidum</i>	Kombumul	Not Evaluated
28	<i>Achyranthes aspera</i>	Naiuruvi	Not Evaluated
29	<i>Aerva lanata</i>	Sirupoolai	Not Evaluated
30	<i>Aerva sanguinolenta</i>	Poolapoo	Not Evaluated
31	<i>Ageratum conyzoides</i>	Appakodi, Goat weed	LC
32	<i>Alternanthera sessilis</i>	Ponnanganni	LC
33	<i>Amaranthus viridis</i>	Mullu Keerai	Not Evaluated
34	<i>Anisomeles indica</i>	Kalyana Murungai	Not Evaluated
35	<i>Argemone mexicana</i>	Piramathandu, Kuduotti	Not Evaluated
36	<i>Boerhavia diffusa</i>	Mukkurattai	Not Evaluated
37	<i>Cassia tora</i>	Siru Kondrai	Not Evaluated
38	<i>Catharanthus roseus</i>	Nithya Kalyani	Not Evaluated
40	<i>Celosia argentea</i>	Kozhi Poo	LC
41	<i>Cleome visocsa</i>	Manjakaduku	Not Evaluated
42	<i>Eclipta prostrata</i>	Karisalan Kanni	Not Evaluated
43	<i>Heliotropium ovalifolium</i>	Anai Vanaki	LC
44	<i>Heliotropium supinum</i>	Anai Vanaki	Not Evaluated

Sl. No	Scientific Names	Local name	Conservation status
45	<i>Parthenium hysterophorus</i>	Visa Poodu	Not Evaluated
46	<i>Portulaca quadrifida</i>	Siru Pasalai	Not Evaluated
47	<i>Tephrosia purpurea</i>	Kolinji, Kollikaivelai	LC
48	<i>Tribulus terrestris</i>	Nerinji Mul	LC
49	<i>Tridax procumbens</i>	Vettukkaaya-thalai	Not Evaluated
50	<i>Typha angustifolia</i>	Anaikkorai	LC
51	<i>Vernonia cinerea</i>	Neisitti	Not Evaluated
52	<i>Xanthium strumarium</i>	Marulumathai	Not Evaluated
53	<i>Euphorbia heyneana</i>	Unknown	Not Evaluated
54	<i>Evolvulus alsinoides</i>	Vishnu Kiranthi	Not Evaluated
55	<i>Pentatropis capensis</i>	Uppiliyan Kodi	Not Evaluated
56	<i>Tinospora cordifolia</i>	Senthal Kodi	Not Evaluated
57	<i>Cocculus hirsutus</i>	Kattukodi	Not Evaluated
Grass			
58	<i>Cyperus rotundus</i>	Koorai	LC
59	<i>Acrachne racemosa</i>		Not Evaluated
60	<i>Alloteropsis cimicina</i>		Not Evaluated
61	<i>Aristida adscensionis</i>		Not Evaluated
62	<i>Aristida funiculata</i>		Not Evaluated
63	<i>Cenchrus ciliaris</i>		LC
64	<i>Cenchrus setigerus</i>		Not Evaluated
65	<i>Chloris barbata</i>		Not Evaluated
66	<i>Chloris virgata</i>		Not Evaluated
67	<i>Cynodon dactylon</i>	Arukam Pul	Not Evaluated
68	<i>Dactyloctenium aegyptium</i>	Mattankayppul	Not Evaluated
69	<i>Dichanthium annulatum</i>		Not Evaluated
70	<i>Eleusine indica</i>		LC
71	<i>Eragrostis ciliaris</i>		Not Evaluated
72	<i>Melanocenthris jacquemontii</i>		Not Evaluated
73	<i>Phragmites karka</i>		LC
74	<i>Sporobolus coromandelianus</i>		Not Evaluated
75	<i>Tetrapogon tenellus</i>		Not Evaluated
Aquatic plants			
76	<i>Ipomoea aquatica</i>	Vallai Keerai	LC
77	<i>Eichhornia crassipes</i>	Vengayathamara	Not Evaluated
Climber			
78	<i>Asparagus racemosus</i>	ThaneerVittan	Not Evaluated

Annexures V

List of Fishes in Nanjarayan Bird Sanctuary

Sl. No.	Not Evaluated Name	Scientific Name	Conservation status
1	Egyptian Mouthbreeder	<i>Oreochromis mossambicus</i>	VU
2	Giant Snakehead	<i>Channa marulius</i>	LC

Annexures VI

List of Reptiles in Nanjarayan Bird Sanctuary

Sl. No.	Not Evaluated Name	Scientific Name	Conservation status
1	Garden lizard	<i>Calotes versicolor</i>	LC
2	Keeled Indian Mabuya	<i>Mabuya carinata</i>	LC

Annexures VII

List of Mammals in Nanjarayan Bird Sanctuary

Sl. No.	Not Evaluated Name	Scientific Name	Conservation status
1	<i>Bos taurus</i>	Cattle	Not Evaluated
2	<i>Capra hircus</i>	Goat	Not Evaluated
3	<i>Bubalus bubalis</i>	Water buffalo	Not Evaluated
4	<i>Canis lupus familiaris</i>	Dog	Not Evaluated
5	<i>Funambulus palmarum</i>	Indian palm squirrel	LC

LC -Least Concern,
NT - Near Threatened,
VU - Vulnerable

Annexure -VIII

FORM WM – 1.1

RESTORATION OF HABITAT : WEED CONTROL, SUBSEQUENT OPERATIONS

Sl.No.	Location & name of site	Year	Extent of area (ha)	Complete or partial coverage	Species of weed	Operation	Total cost	Cost per ha	Remarks
1	2	3	4	5	6	7	8	9	10

Note: Location : By compartment, site name or land feature
 Operation : Uprooting, cutting, burning, ploughing, manual or by using animals or machinery.
 Remarks : Percent cover of weed/s before operation, problems, if any

Annexures IX

FORM WM-1.2

RESTORATION OF HABITAT : AREA UNDER PROTECTION / CLOSURE

Sl.No.	Location	Year	Extent of area (ha)	Description of site	Regulations or protection measures	Response	Remarks
1	2	3	4	5	6	7	8

Note:

Location : By compartment or landmar

Description of site : % tree, shrub, ground cover, main species, impact of factors causing perturbations.

Regulations : Social fencing, power or other kind of fencing, enforced protection by patrolling, protection measures, fire protection etc.,

Response : To be recorded annually. Consider trend of regeration, vegetation cover, change in structure and composition, wildlife use index.

Remarks. : State problems or any other useful information, including alternatives if areas being used by people for specific purpose.

Annexures X

FORM WM-1.3

ANIMALS : MEASURING TRENDS IN POPULATIONS (YEAR)

Sl.No.	Species	Population estimation methodology	Adult		Sub-adults		Yearlings	Fawns	Cubs	Total	Remarks
			Male	Female	Male	Female					
1	2	3	4	5	6	7	8	9	10	11	12

Note: Population Estimation : e.g pugmark, line transect, scan, roadside counts etc., area covered, sampling intensity.
Remarks. : data treatment, extrapolation where involved. In case of indices of density or dung count mention those figures under the remarks' column; use details as pertinent. Describe age classes for each species.
: Operational problems, protection problems, any other useful information.
Indices of density or dung count details to be recorded here.

Annexures XI

FORM WM-1.4

ANIMALS : MORTALITY ATTRIBUTED TO POACHING OR AN ACT OF VANDALISM

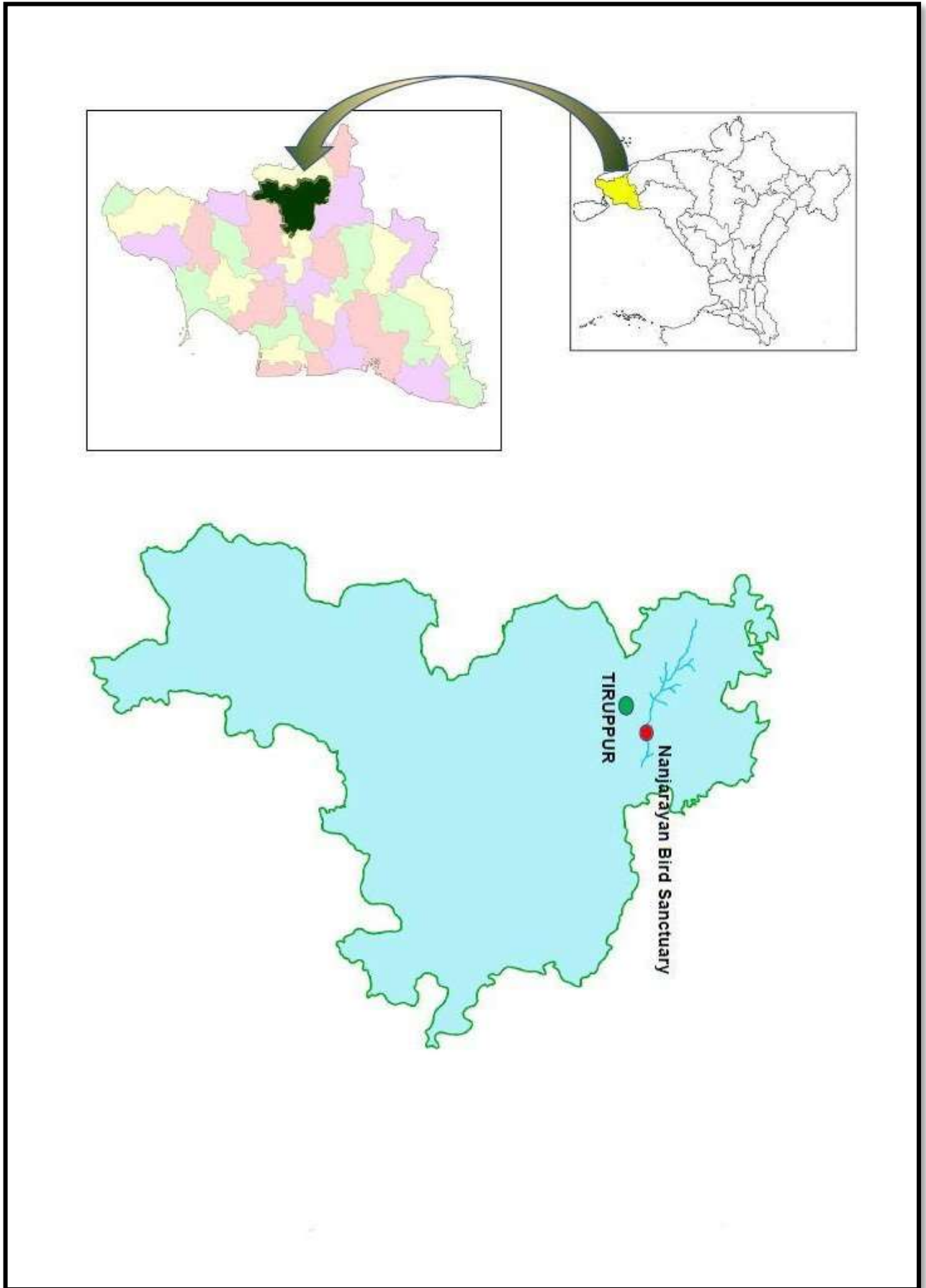
Sl.No.	Species	Location	Cause of mortality				Remarks
			Number	Sex	Age	Class	
1	2	3	4				5

Note: Location : By compartments or landmarks.
Cause of mortality : Whether the animal was intact or remains found, article or trophy to be recorded. Cause if known e.g animal snared, shot or poisoned etc.,
Remarks. : Any other useful information, especially matters of illegal trade.

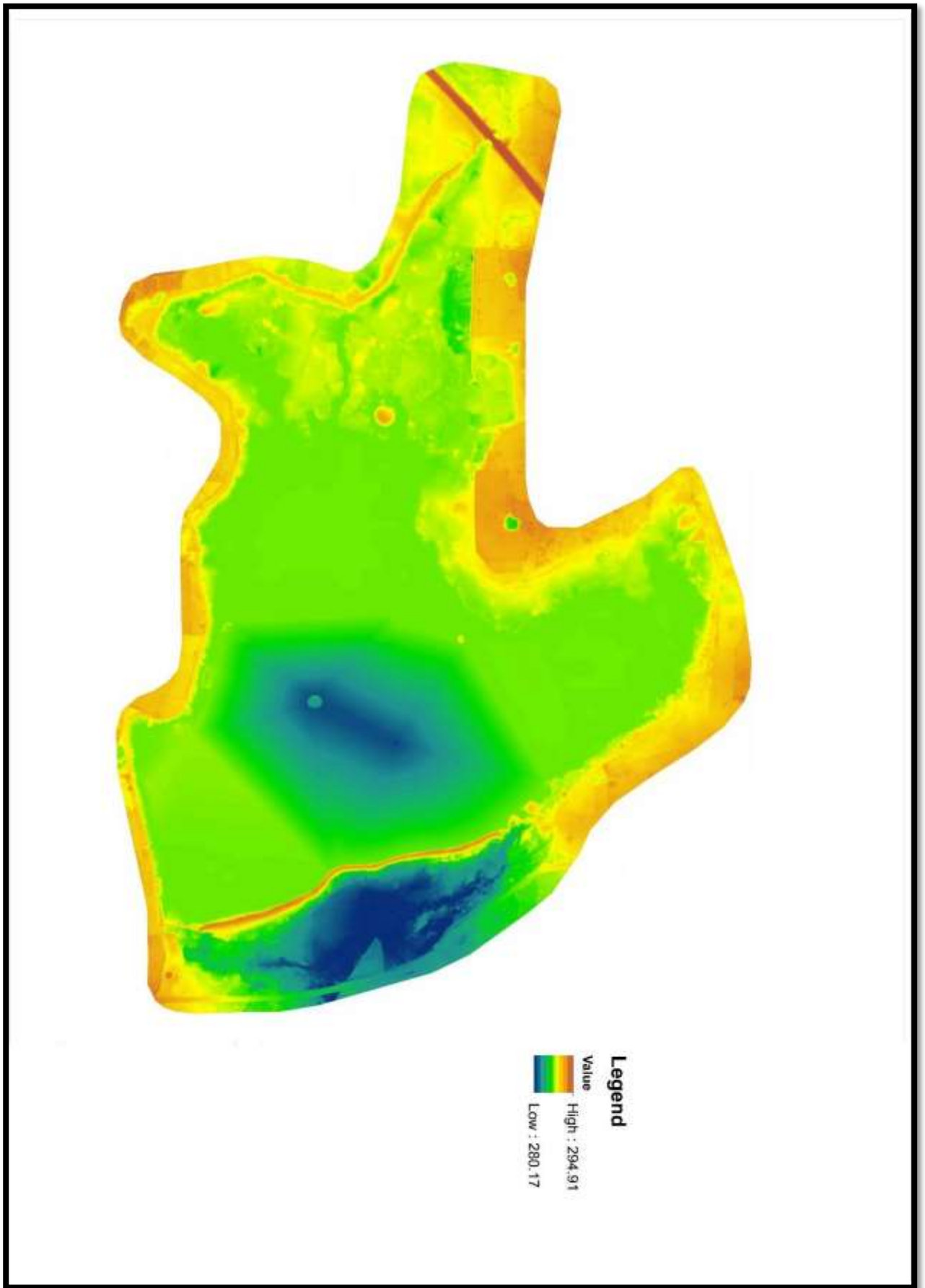
Map 1: Map showing the Aerial view of Nanjarayan Bird Sanctuary



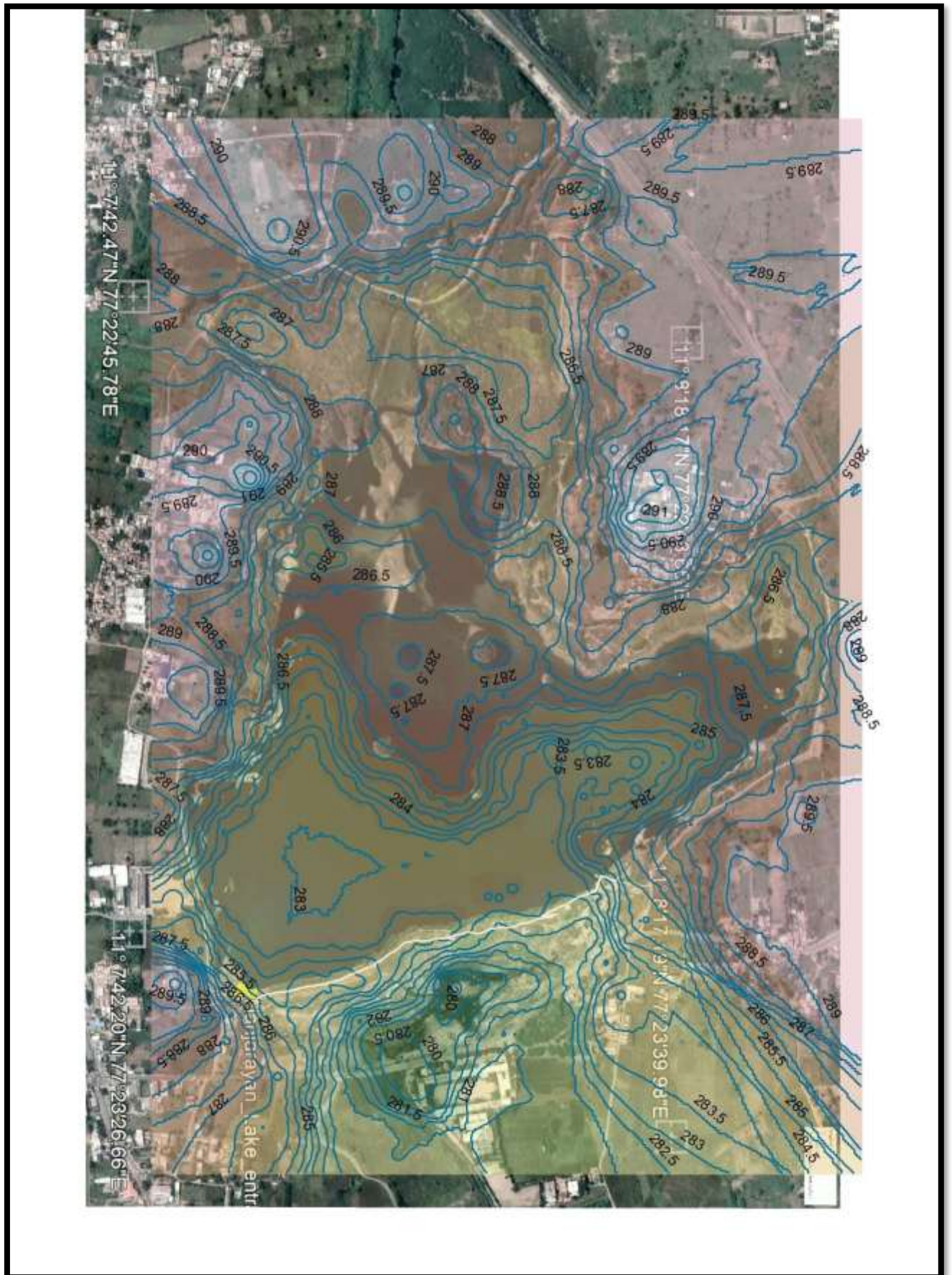
Map 2: Location Map Nanjarayan Bird Sanctuary, Tiruppur District.



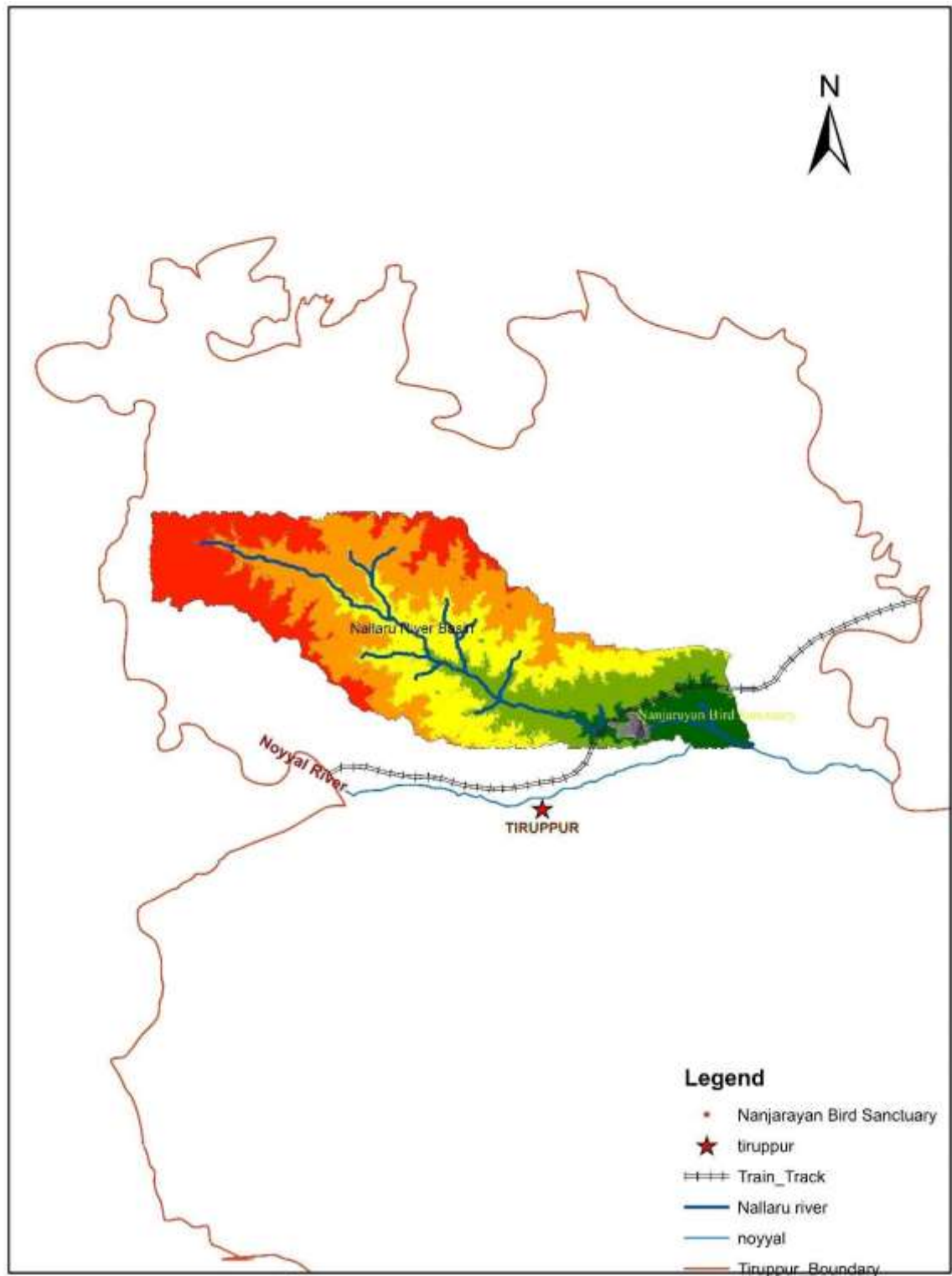
Map 3: Map showing the Topography of Nanjarayan Bird Sanctuary



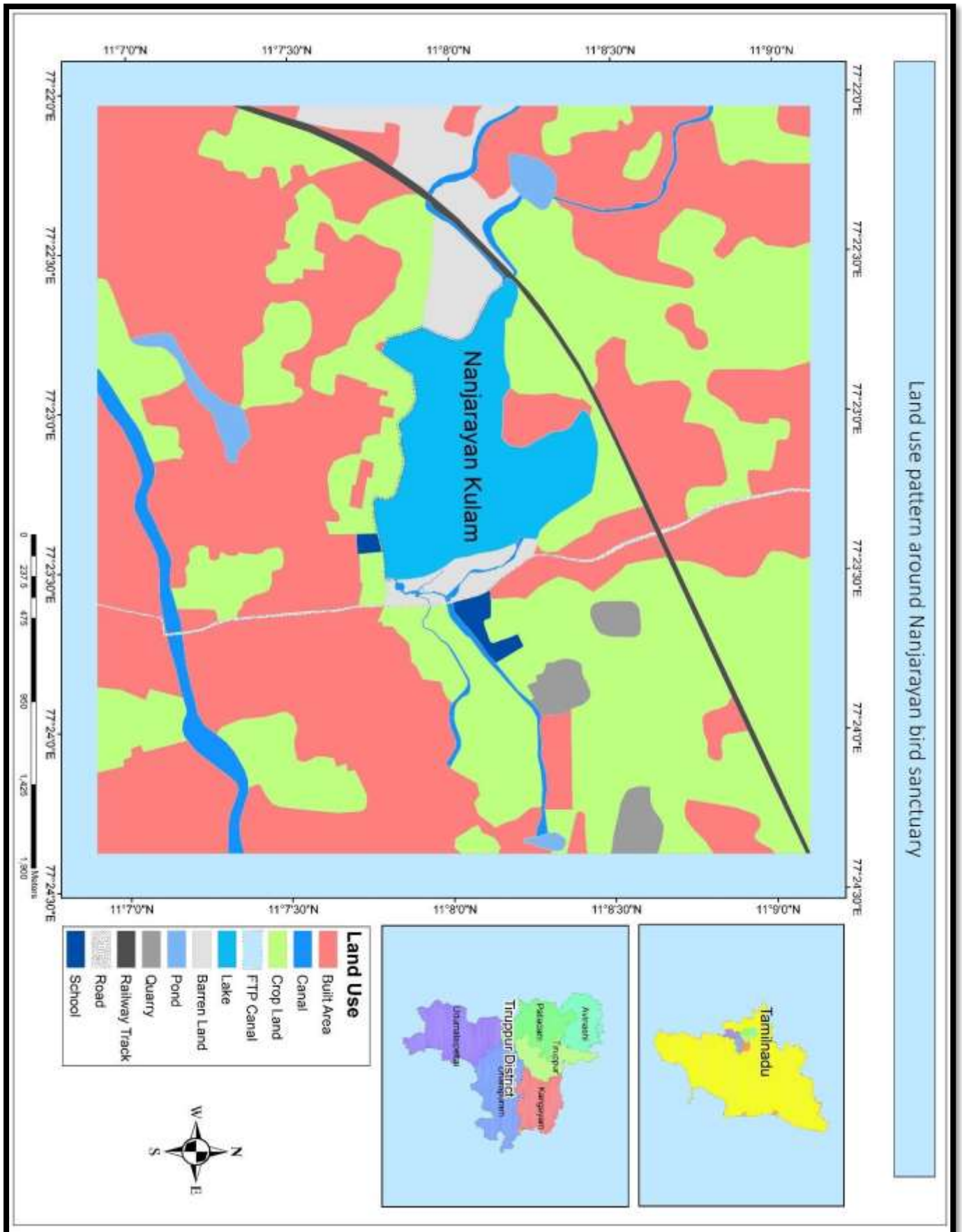
Map 4: Contour Map of Nanjarayan Bird Sanctuary



Map 5: Map showing Nallaru river basin



Map 6: LCLU Map of Nanjarayan Bird Sanctuary and it's surrounding area



Map 7: Map Showing the Nallaru river and existing baby canal



Map 8: Map showing Zone of Influence of Nanjarayan Bird Sanctuary

