ECOSYSTEM HEALTH CARD FOR 65 WETLANDS IN TAMIL NADU

TAMIL NADU STATE WETLAND AUTHORITY
DEPARTMENT OF ENVIRONMENT,
CLIMATE CHANGE AND FOREST

Funded by
TAMIL NADU WETLANDS MISSION



Report Prepared by
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Preface

This report presents the findings of a comprehensive studies on 65 wetlands across Tamil Nadu. Led by **Dr. S. Kanmani**, Professor and Director, Centre for Environmental Studies, Anna University, Chennai, and co-investigated by **Dr. Saranya Kuppusamy**, Visiting Professor, and **Dr. A. Merline Sheela**, Associate Professor, both from the Centre for Environmental Studies, Anna University. This study aims to provide a thorough overview of the wetlands in the region, shedding light on their identification, jurisdiction, location, physical characteristics, biodiversity, pre-existing rights and privileges, as well as the present and potential threats they face. This research was undertaken with the goal of raising awareness about the vital role that these wetlands play in maintaining ecological balance and supporting local communities. By documenting the key aspects of each wetland, the report seeks to encourage informed decision-making and further conservation efforts.

We extend our sincere thanks to the **Tamil Nadu State Wetland Authority (TNSWA)** for their immense support throughout this project. Special thanks to Thiru. **Deepak Srivastava, I.F.S.,** Principal Chief Conservator of Forests and Member Secretary, TNSWA, for his unwavering support. TNSWA invaluable cooperation and guidance have played a pivotal role in ensuring the success of this study. We also acknowledge the dedication of our research team, whose unwavering commitment to data collection, fieldwork, and analysis has been integral to the completion of this report. This document is intended as a resource for researchers, policymakers, environmentalists, and anyone interested in the conservation of Tamil Nadu's wetlands. We hope that it will contribute to greater recognition of the importance of these ecosystems and inspire continued efforts to preserve them for future generations.



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‘ நிலமூட்டும் காற்று, நீரின் முத்துக்கள், பறவைகளின் அழகிய மெல்லிய கீறல்கள் – **WETLANDS** என்பது இயற்கையின் கண் திறக்கும் நம்பிக்கை. இவை உயிரின் சமநிலை, வாழ்க்கையின் ஊற்றுகளை மீட்டெடுக்கின்றன. ஏரிகள், குளங்கள், நதி கரைகள் தங்கள் மௌனத்தில் புரிந்தும் பிரகாசிக்கும் அற்புதங்கள்.’

Anna University Research Team

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I Introduction

Wetlands are vital ecosystems that provide numerous environmental and socio-economic benefits, including biodiversity support, water purification, and flood regulation. In Tamil Nadu, wetlands play a crucial role in sustaining local communities, agriculture, and wildlife. However, these ecosystems face increasing threats due to urbanization, pollution, and climate change. To address these challenges, the **Wetland Health Card** has been developed as an innovative tool to assess and monitor the health of 65 key wetlands in Tamil Nadu, in alignment with the **Wetlands (Conservation and Management) Rules, 2017.**

The Wetland Health Card evaluates wetlands based on three main components:

- **Ecological Integrity**: Focuses on biodiversity, water quality, and the overall health of wetland ecosystems.
- **Hydrological Dynamics:** Assesses the wetland's ability to regulate water flow, maintain groundwater levels, and mitigate floods or droughts.
- **Socio-Economic Value:** Evaluates the wetland's importance to local communities, including its role in agriculture, fishing, and tourism, and the sustainability of human activities.

The **primary objective** of this study is to prepare a **Wetland Health Card for 65 wetlands in Tamil Nadu**, providing a comprehensive evaluation of their ecological and socio-economic health. This assessment will:

- Identify priority areas for conservation and restoration.
- Support evidence-based decision-making for sustainable management practices.
- Create a platform for data sharing and collaboration through the **Wetlands International Portal**, integrating local conservation efforts into global strategies.

By evaluating the wetlands, the Wetland Health Card provides actionable insights to policymakers, researchers, and conservationists, helping them identify areas that require immediate intervention and ensuring long-term sustainable management. It also facilitates the integration of local efforts into global conservation initiatives, fostering collaboration, data sharing, and best practices on a larger scale.

Through the Wetland Health Card, stakeholders in Tamil Nadu can gain a deeper understanding of wetland conditions and engage in targeted actions for restoration and protection. This initiative plays a critical role in safeguarding the future of Tamil Nadu's wetlands and the ecosystem services they provide. The collective efforts of local communities, government bodies, and conservation organizations are essential in ensuring the continued health of these wetlands for generations to come.





II Methodology

The assessment of wetland health for the 65 key wetlands in Tamil Nadu follows a structured approach that evaluates the wetlands based on four primary components: **Area, Hydrology and Catchment, Biodiversity,** and **Governance**. Each component is measured through a set of indicators, and the actual values are classified into various categories to assess the wetlands' health comprehensively.

1. Area: The objective is to assess the extent of wetland area loss or gain over time. Satellite imagery and GIS tools are used to map the wetland's current boundaries and compare them with historical maps or imagery. Data from government records and local authorities are collected, and ground-truthing through field visits confirms changes observed in satellite data. The percentage of wetland area converted to non-wetland uses is calculated, with categories ranging from less than 1% to more than 20% of conversion since 2000. The indicators for this component include the percentage of wetland converted to non-wetland use, which is categorized as follows**: 0% (A), 1-5% (B), 6-10% (C), 11-20% (D), and more than 20% (E).**

2. Hydrology and Catchment: This component evaluates the hydrological health of the wetland and its catchment area. Rainfall and runoff patterns are analyzed using meteorological data and hydrological models to assess water levels and inflow rates. Water samples from various points in the wetland are tested for parameters such as Biological Oxygen Demand (BOD), pH, salinity, and dissolved oxygen. A land use study of the wetland's catchment area is conducted using satellite imagery to determine the impact of agriculture, urbanization, and natural land use on water inflows. Stakeholder interviews validate changes in hydrology and anthropogenic impacts. The indicators for hydrology include the ratio of the number of natural inlets choked and diverted to the total number of natural inlets, which is categorized as follows: **0-0.2 (A), 0.3-0.4 (B), 0.4-0.6 (C), 0.7-0.8 (D), and more than 0.8 (E)**. Similarly, the ratio of the number of natural outlets choked and diverted to the total number of natural outlets is categorized the same way. For BOD, the categories range from **80-100% of samples meeting the criteria (A) to less than 20% (E).**





3. Biodiversity: To document and evaluate the richness and health of biodiversity within the wetland, field surveys are conducted using transects, quadrats, and camera traps for fauna. Bird species are surveyed through the point count method, and aquatic fauna is assessed through netting techniques. Invasive species surveys are conducted to determine their impact on native biodiversity and ecosystem health. Annual comparisons of species diversity and abundance are made with historical data, and the conservation significance of rare or threatened species is documented. The indicators for biodiversity include the percentage of wetland area covered by invasive species, which is categorized as follows: **less than 10% (A), 11-20% (B), 21-30% (C), 31-40% (D), and more than 40% (E).** The annual waterbird count as a proportion of the average count of the last five years is also categorized, with **more than 0.7 (A), 0.6-0.7 (B), 0.5-0.6 (C), 0.4-0.5 (D), and less than 0.5 (E).**

4. Governance: This component assesses the administrative and regulatory framework in place for wetland protection and management. The presence of a clearly demarcated wetland map prepared and updated by the State Wetland Authority (SWA) is evaluated. The status of the wetland's management plan is reviewed, including its approval by the SWA and the implementation status through field visits and consultations. The wetland's notification status under the Wetlands (Conservation and Management) Rules, 2017, is also examined, including any pending or completed regulatory processes such as the issuance of notifications. The indicators for governance include whether a clearly demarcated wetland map is prepared and updated by SWA, categorized as follows: **Wetland map prepared and updated by SWA (A), Wetland map prepared and consideration of SWA (B), Wetland map prepared but not placed under SWA (C), Wetland map under preparation (D), and Wetland map not prepared (E).** Similarly, the management plan's status is categorized based on **whether it is approved by SWA (A), prepared and submitted to SWA (B), prepared but not submitted (C), under preparation (D), or not prepared (E).** Lastly, the wetland's notification status is categorized as follows: **Wetland is notified under WPA (A), draft notification (B), regulation under process (C), regulation planned, process initiated (D), and no regulation (E).**

This methodology provides a comprehensive evaluation of wetland health, combining satellite data, field surveys, water quality analysis, and regulatory assessments. The results guide decision-making for the conservation, restoration, and sustainable management of these critical ecosystems.



1 KARAIVETTI BIRD SANCTUARY

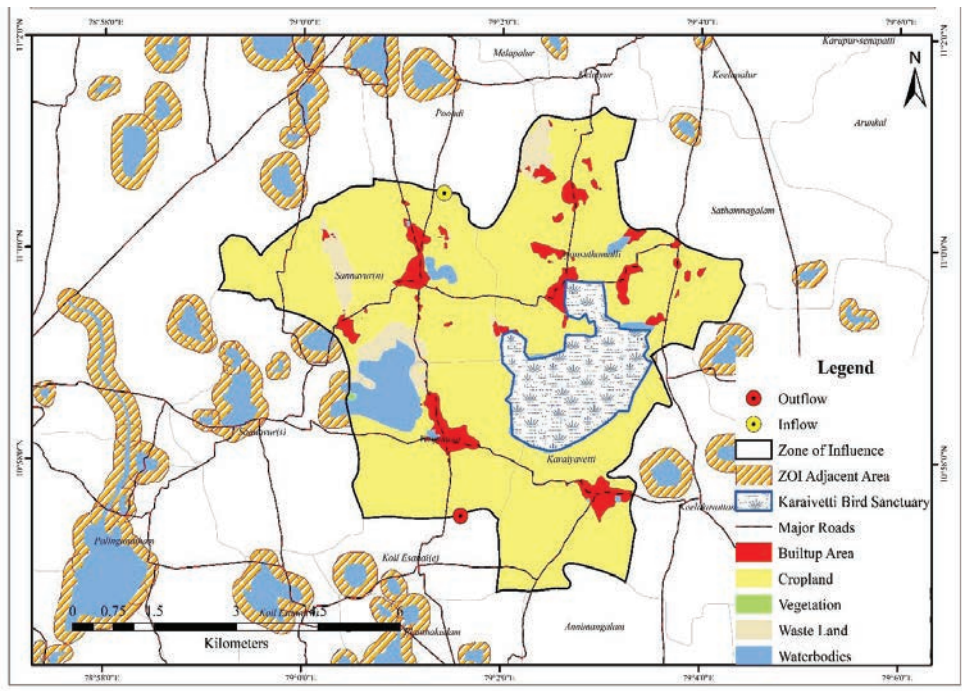
OVERVIEW AND LOCATION

Located in the Ariyalur District of Tamil Nadu, India, the Bird Sanctuary covers 456 ha, with a zone of influence extending over a 3.42 km radius (3230.56 ha). This wetland is primarily a permanent freshwater marsh, with seasonal influxes from rainfall and nearby rivers. The region experiences a dry climate, with an annual rainfall of 184.4 mm and temperatures ranging from 26.05°C to 36.6°C, creating a unique ecosystem that thrives in these conditions.

ECOSYSTEM SERVICES

The sanctuary plays a crucial role in supporting agriculture through groundwater recharge. It serves as an important habitat for diverse species, particularly migratory birds, contributing to the region's biodiversity. The wetland is vital for water purification, filtering contaminants and sediments, and also offers cultural and religious value. Additionally, it acts as a natural buffer against extreme weather events, such as floods and storms.

ZONE OF INFLUENCE MAP



HEALTH ASSESSMENT AND INDICATORS OF KARAIVETTI BIRD SANCTUARY

S.No	Feature	Indicator	Desired Value	Actual Value	Category
1	Area	% Wetland converted to non-wetland use since 2000	0%	0%	A
2	Hydrology and Catchment	Ratio of number of natural inlets chocked and diverted to total number of natural inlets	0-0.2	0	A
		Ratio of number of natural outlets chocked and diverted to total number of natural outlets	0-0.2	0	A
		Biological Oxygen Demand (3 water samples)	3-6 mg/l	60-80% sample meet the criteria	B
3	Biodiversity	% wetland area covered by invasive macrophytes	<10%	<10%	A
		Annual waterbird count as a proportion of average count of last 5 years	Increasing	More than 0.1	A
4	Governance	Clearly demarcated wetlands map	Wetlands map prepared and updated by SWA	Wetlands map prepared and updated by SWA	A
		Wetland Management Plan	Management plan prepared and approved by SWA	Management plan prepared and approved by SWA	A
		Wetlands notification	Wetland is notified under WPA	No regulation	E
				Health Score	B+

Date of Entry : 18/10/2024

WETLAND HEALTH

Wetlands in this category show good ecological health, with no significant conversion to non-wetland uses, intact hydrology, and low invasive species coverage. Water quality is generally good, though some wetlands may have minor issues with Biological Oxygen Demand (BOD). Governance is effective, with management plans and updated maps, but the absence of legal notification under the Wetland Protection Act remains a gap that needs addressing.





THREATS

The wetland faces several potential threats, including changes in water inflow and outflow patterns, which could destabilize the hydrological balance. Pollution, especially from untreated sewage and effluent discharge, poses a significant risk to water quality. Unsustainable harvesting of biological resources and the spread of invasive species are growing concerns, as they disrupt native ecosystems. Additionally, encroachment, siltation, and illegal mining activities further exacerbate the decline of the wetland's health, requiring immediate mitigation efforts.

2 OTTERI LAKE

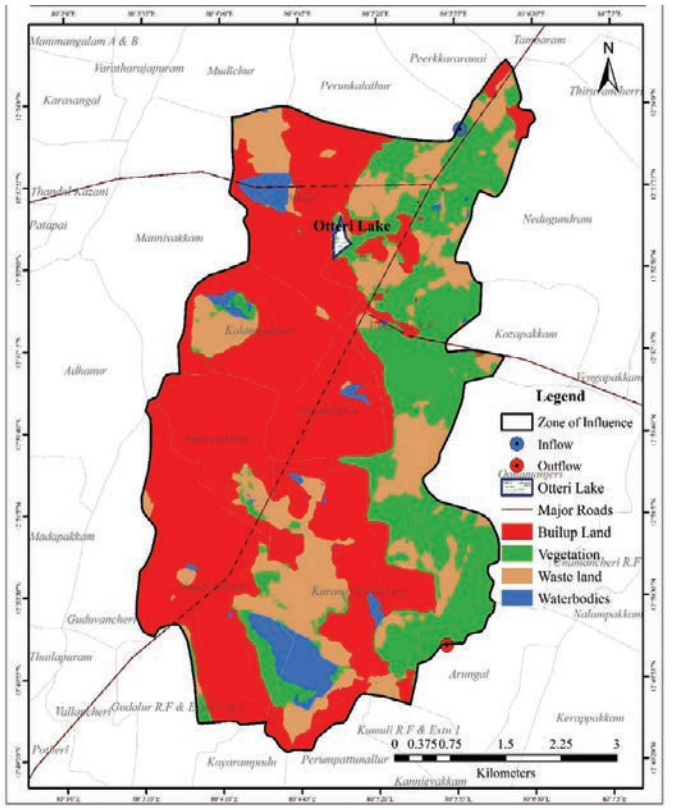
OVERVIEW AND LOCATION

Otteri Lake is located in Vandalur, within the Tambaram Corporation of Chengalpattu District, Tamil Nadu. The lake sits at an elevation of 32 m above mean sea level, with geographical coordinates of 12˚53’5.1821” N and 80˚5’3.3864” E. Spanning 6 hectares in size, the wetland's zone of influence extends over 3031 ha.

ECOSYSTEM SERVICES

Otteri Lake provides vital ecosystem services that benefit both the environment and local communities. It supports groundwater recharge, which is crucial for drinking water and agricultural use in the surrounding area. The wetland also serves as a habitat for a diverse range of animal and plant species, including migratory water birds. Additionally, the lake plays a key role in water purification, filtering contaminants and sediments. The site holds recreational and cultural significance for the local population and acts as a natural buffer, protecting communities from floods and storms.

ZONE OF INFLUENCE MAP



HEALTH ASSESSMENT AND INDICATORS OF OTTERI LAKE

S.No	Feature	Indicator	Desired Value	Actual Value	Category
1	Area	% Wetland converted to non-wetland use since 2000	0%	0%	A
2	Hydrology and Catchment	Ratio of number of natural inlets chocked and diverted to total number of natural inlets	0-0.2	0	A
		Ratio of number of natural outlets chocked and diverted to total number of natural outlets	0-0.2	0	A
		Biological Oxygen Demand (3 water samples)	3-6 mg/l	Less than 20% sample meet the criteria	E
3	Biodiversity	% wetland area covered by invasive macrophytes	<10%	<10%	A
		Annual waterbird count as a proportion of average count of last 5 years	Increasing	0.5-0.6	C
4	Governance	Clearly demarcated wetlands map	Wetlands map prepared and updated by SWA	Wetland map prepared but not placed under SWA	C
		Wetland Management Plan	Management plan prepared and approved by SWA	No Management plan	E
		Wetlands notification	Wetland is notified under WPA	No regulation	E
				Health Score	E

Date of Entry : 18/10/2024

WETLAND HEALTH

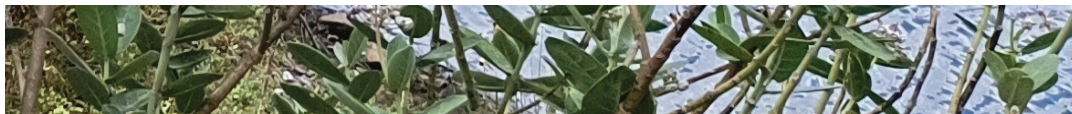
Wetlands in this range are in critical condition, with extensive conversion to non-wetland uses, very poor water quality (low BOD compliance), high invasive species coverage, and severely declining biodiversity. Governance is almost non-existent, with no management plans, updated maps, or legal notification. These wetlands require urgent and large-scale restoration efforts to prevent further degradation.





THREATS

Otteri Lake faces several threats that could jeopardize its ecological health. Changes in water inflow and outflow patterns, potentially caused by human interventions or climate changes, pose a risk to the lake's hydrological stability. Pollution, particularly from nutrient loading, is a significant concern, as it contributes to high turbidity and may affect aquatic life. Invasive species, both plant and animal, also threaten native biodiversity, while siltation and encroachment are further concerns that could degrade the wetland's capacity to provide essential services. Additionally, the unsustainable harvesting of biological resources could exacerbate these issues.



3 MAHABALIPURAM BACKWATER

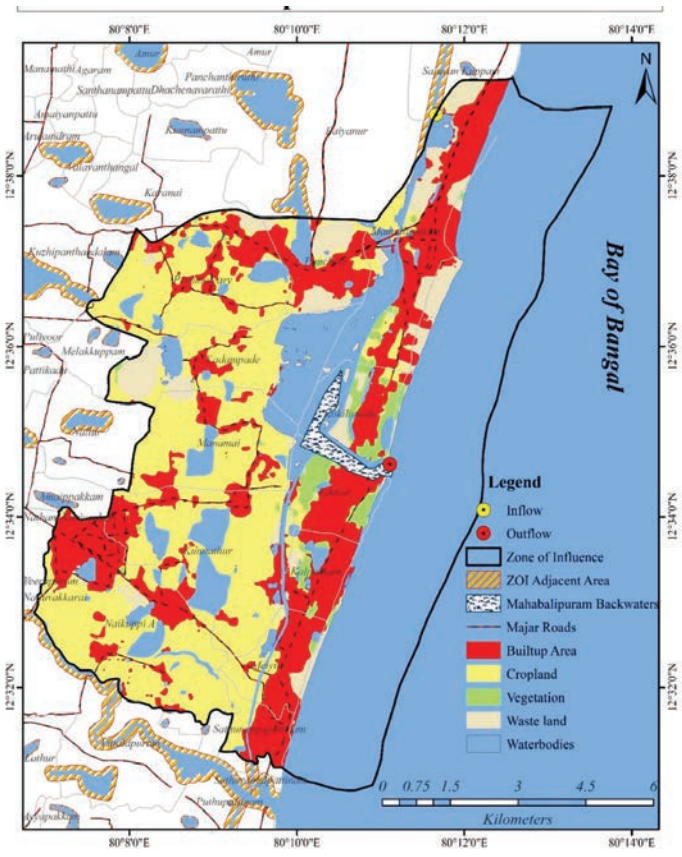
OVERVIEW AND LOCATION

The Mahabalipuram Backwater, also known as the Buckingham Backwaters, is located in the village of Edaiyur, within the Thirukalikundram Tehsil of Chengalpattu District in Tamil Nadu. Positioned at geographical coordinates 12°53'5.1821" N and 80°5'3.3864" E, this wetland complex covers an area of 97 ha. The wetland lies at sea level (0 m above mean sea level) and is primarily influenced by the backwaters from the Bay of Bengal, with water flowing through the Buckingham Canal.

ECOSYSTEM SERVICES

The Mahabalipuram Backwater supports fisheries and hosts migratory water birds. Mangroves buffer against floods and storms, while temples add cultural significance. It also aids groundwater recharge, ensuring water sustainability.

ZONE OF INFLUENCE MAP



HEALTH ASSESSMENT AND INDICATORS OF MAHABALIPURAM BACKWATER

S.No	Feature	Indicator	Desired Value	Actual Value	Category
1	Area	% Wetland converted to non-wetland use since 2000	0%	0%	A
2	Hydrology and Catchment	Ratio of number of natural inlets chocked and diverted to total number of natural inlets	0-0.2	0	A
		Ratio of number of natural outlets chocked and diverted to total number of natural outlets	0-0.2	0	A
		Biological Oxygen Demand (3 water samples)	3-6 mg/l	20-40% sample meet the criteria	D
3	Biodiversity	% wetland area covered by invasive macrophytes	<10%	11-20%	B
		Annual waterbird count as a proportion of average count of last 5 years	Increasing	0.5-0.6	C
4	Governance	Clearly demarcated wetlands map	Wetlands map prepared and updated by SWA	Wetland map prepared but not placed under SWA	C
		Wetland Management Plan	Management plan prepared and approved by SWA	No Management plan	E
		Wetlands notification	Wetland is notified under WPA	No regulation	E
				Health Score	D

Date of Entry : 18/10/2024

WETLAND HEALTH

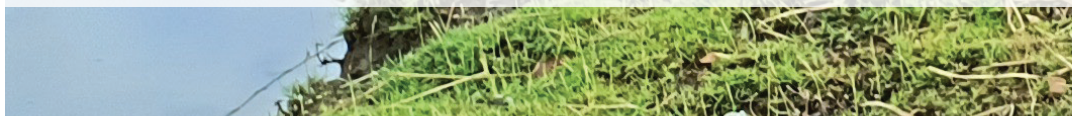
Wetlands in this category face severe ecological challenges, including significant conversion to non-wetland uses, poor water quality (low BOD compliance), high invasive species coverage, and declining biodiversity. Governance is largely absent, with no management plans, updated maps, or legal notification. Immediate and comprehensive conservation interventions are required to restore these wetlands.





THREATS

The Mahabalipuram Backwaters face several environmental threats that could compromise its ecological health. These include pollution, unsustainable harvesting of biological resources, siltation, and encroachment. The spread of invasive plant and animal species, particularly one reptile species, poses a significant threat to the native biodiversity. Additionally, changes in water inflow and outflow, along with potential mining activities, could further disrupt the ecosystem. These threats need to be addressed through stricter regulation, conservation efforts, and public awareness to protect the wetland's long-term health.



4 VEDANTHANGAL BIRDS SANCTUARY

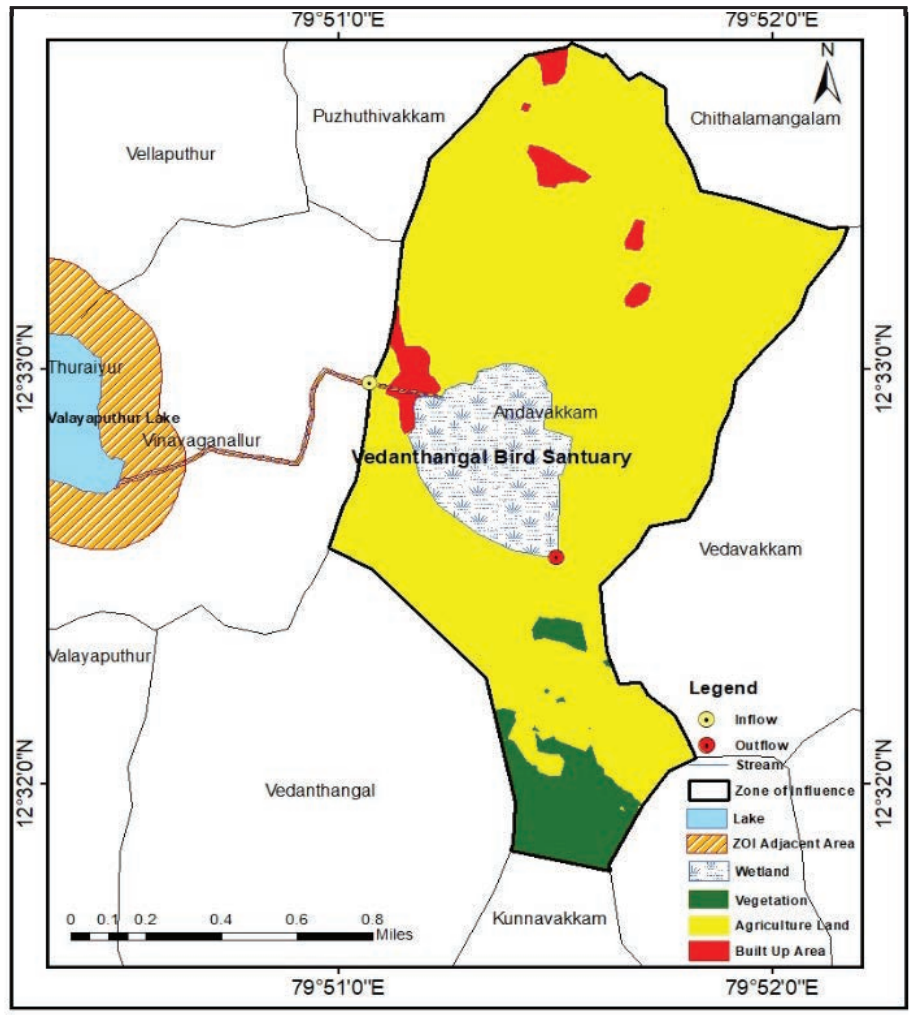
OVERVIEW AND LOCATION

Vedanthangal Bird Sanctuary, located in the village of Vedanthangal within the Maduranthagam Tehsil of Chengalpattu District, is a vital wetland ecosystem situated at 12˚32’47” N latitude and 79˚51’21” E longitude. The sanctuary spans an area of 40.34 ha, with an average water depth of 1.5 meters and is managed by the Forest Department. Located at an elevation of 122 m above sea level, it serves as a crucial site for both migratory and resident bird species, offering a safe habitat for wildlife. The sanctuary is primarily fed by rainfall, catchment runoff, and water from Valayapudhur Lake, with the zone of influence extending over 356.16 ha in an irregular radius.

ECOSYSTEM SERVICES

The Vedanthangal Bird Sanctuary supports agriculture by supplying surplus water to nearby fields and aids fisheries. It provides habitat for diverse species, enhances groundwater recharge, and purifies water. The site holds cultural significance with a temple, attracts ecotourism, and buffers against floods while supporting aquatic life cycles.

ZONE OF INFLUENCE MAP



HEALTH ASSESSMENT AND INDICATORS OF VEDANTHANGAL BIRD SANCTUARY

S.No	Feature	Indicator	Desired Value	Actual Value	Category
1	Area	% Wetland converted to non-wetland use since 2000	0%	0%	A
2	Hydrology and Catchment	Ratio of number of natural inlets chocked and diverted to total number of natural inlets	0-0.2	0	A
		Ratio of number of natural outlets chocked and diverted to total number of natural outlets	0-0.2	0	A
		Biological Oxygen Demand (3 water samples)	3-6 mg/l	60-80% sample meet the criteria	B
3	Biodiversity	% wetland area covered by invasive macrophytes	<10%	<10%	A
		Annual waterbird count as a proportion of average count of last 5 years	Increasing	More than 0.7	A
4	Governance	Clearly demarcated wetlands map	Wetlands map prepared and updated by SWA	Wetlands map prepared and updated by SWA	A
		Wetland Management Plan	Management plan prepared and approved by SWA	Management plan prepared and approved by SWA	A
		Wetlands notification	Wetland is notified under WPA	No regulation	E
				Health Score	B+

Date of Entry : 18/10/2024

WETLAND HEALTH

Wetlands in this category show good ecological health, with no significant conversion to non-wetland uses, intact hydrology, and low invasive species coverage. Water quality is generally good, though some wetlands may have minor issues with Biological Oxygen Demand (BOD). Governance is effective, with management plans and updated maps, but the absence of legal notification under the Wetland Protection Act remains a gap that needs addressing.





THREATS

The wetland faces several threats, both present and potential, that could negatively impact its ecological health. Changes in water inflow and outflow, pollution from agricultural runoff, and unsustainable resource extraction are some of the key threats. Siltation and encroachment are also concerns that could affect the wetland's ability to provide essential ecosystem services. The spread of invasive species within the sanctuary could further threaten native biodiversity. Effective and proactive management strategies will be crucial to mitigate these risks and preserve the sanctuary's ecological balance.



5 KARIKILI BIRDS SANCTUARY

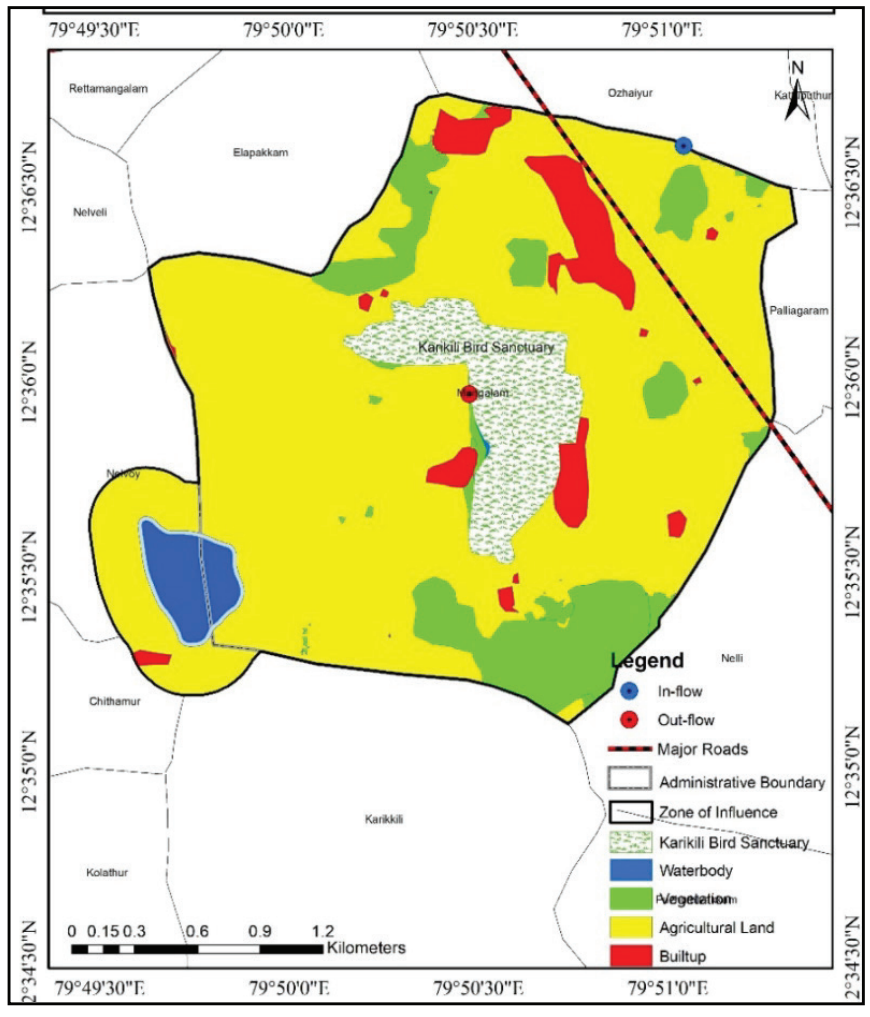
OVERVIEW AND LOCATION

Karikili Bird Sanctuary is situated in Mangalam, Maduranthagam Taluk, Chengalpattu District, Tamil Nadu, approximately 85 km from Chennai. This natural inland wetland spans 58.43 ha and features seasonal/intermittent freshwater marshes and permanent streams. It serves as an important habitat for biodiversity conservation and is designated as a Ramsar site in 2022, receiving legal protection under the Wildlife (Protection) Act. The sanctuary is managed by the Tamil Nadu Forest Department.

ECOSYSTEM SERVICES

Karikili Bird Sanctuary provides essential services such as groundwater recharge, water purification and sediment buffering. It also supports a rich habitat for migratory water birds, enhancing its value for ecological health and conservation.

ZONE OF INFLUENCE MAP



HEALTH ASSESSMENT AND INDICATORS OF KARIKILI BIRD SANCTUARY

S.No	Feature	Indicator	Desired Value	Actual Value	Category
1	Area	% Wetland converted to non-wetland use since 2000	0%	0%	A
2	Hydrology and Catchment	Ratio of number of natural inlets chocked and diverted to total number of natural inlets	0-0.2	0	A
		Ratio of number of natural outlets chocked and diverted to total number of natural outlets	0-0.2	0	A
		Biological Oxygen Demand (3 water samples)	3-6 mg/l	Less than 20% sample meet the criteria	E
3	Biodiversity	% wetland area covered by invasive macrophytes	<10%	<10%	A
		Annual waterbird count as a proportion of average count of last 5 years	Increasing	0.5-0.6	C
4	Governance	Clearly demarcated wetlands map	Wetlands map prepared and updated by SWA	Wetlands map prepared and updated by SWA	A
		Wetland Management Plan	Management plan prepared and approved by SWA	Management plan prepared and approved by SWA	A
		Wetlands notification	Wetland is notified under WPA	No regulation	E
				Health Score	C+

Date of Entry : 18/10/2024

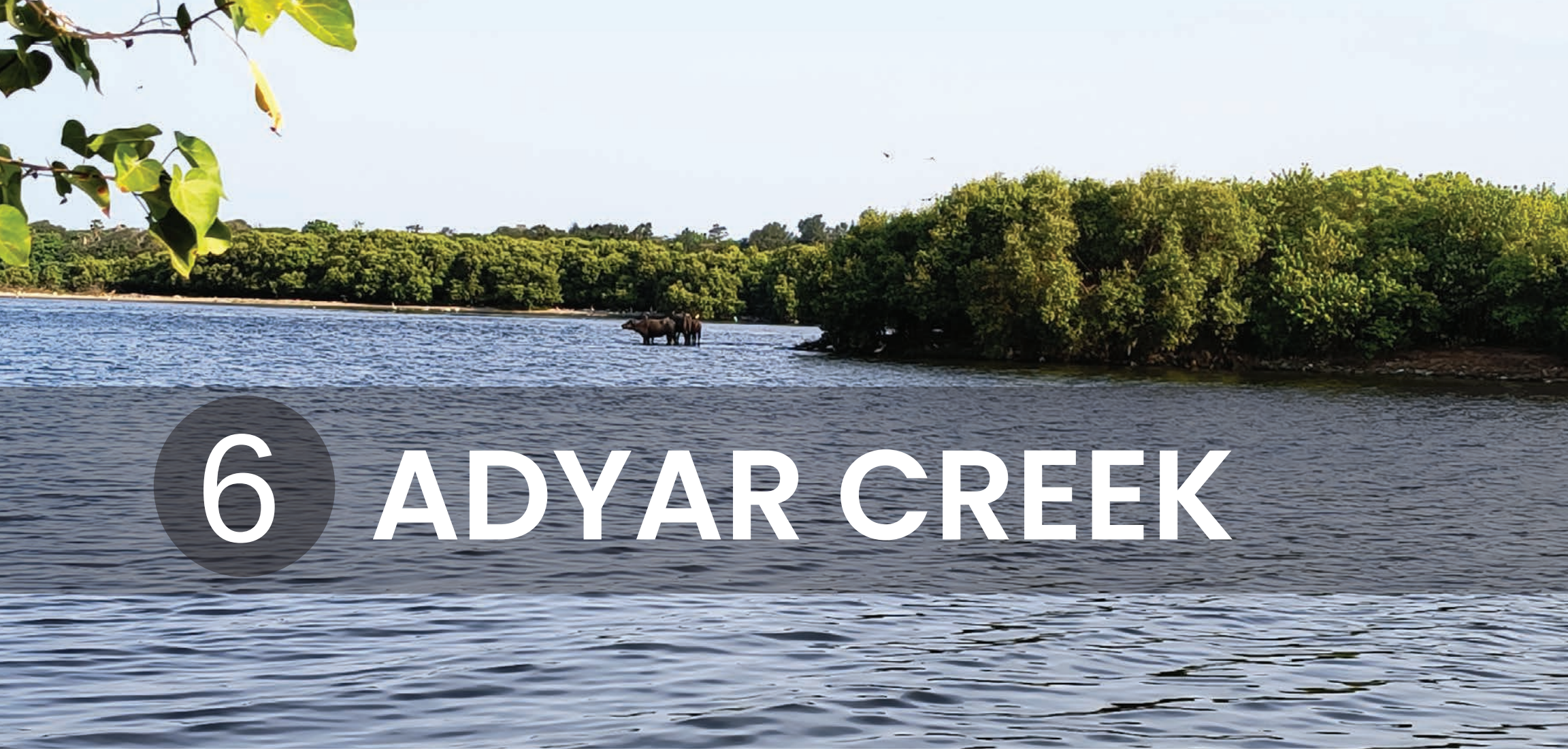
WETLAND HEALTH

Wetlands in this category have fair ecological health, with no significant conversion to non-wetland uses and mostly intact hydrology. However, they face issues like poor water quality (low BOD compliance), moderate invasive species coverage, and declining biodiversity indicators. Governance is weak, with many wetlands lacking management plans, updated maps, or legal notification, highlighting the need for stronger conservation measures.



THREATS

Karikili Bird Sanctuary faces several challenges, including pollution, unsustainable resource harvesting, invasive species, water flow changes and encroachment. Despite minimal threats from non-wetland conversion, the decline in waterbird populations and lack of Wild Life Protection Act notification pose significant concerns for its future.



6 ADYAR CREEK

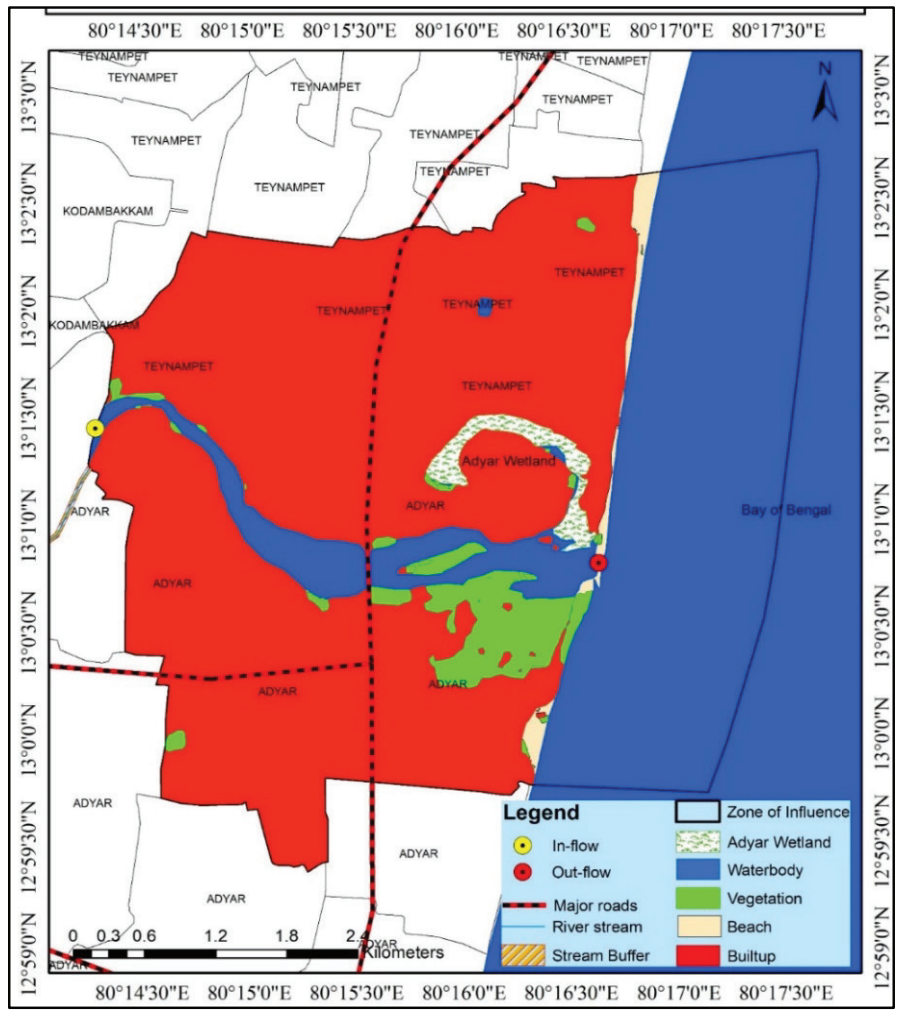
OVERVIEW AND LOCATION

Adyar Creek, also known as the Adyar Estuary, is located in Chennai, Tamil Nadu, with geographical coordinates of 13°0’48.7188” N latitude and 80°16’3.756” E longitude. Spanning an area of 144.9 ha, this coastal natural wetland includes estuarine habitats and mangroves. It plays a significant role in urban biodiversity conservation and flood mitigation. Managed by the Chennai Rivers Restoration Trust (CRRT), the creek's zone of influence extends across 2,775.61 ha, predominantly comprising urban settlements and water bodies.

ECOSYSTEM SERVICES

Adyar Creek provides essential services, including communal fisheries and medicinal plants for local use. Mangroves protect the area from floods and storms, while also supporting a high congregation of migratory birds. It plays a key role in the life cycle of fish and amphibians. Additionally, the mangroves contribute to carbon sequestration, aiding in climate change mitigation.

ZONE OF INFLUENCE MAP



HEALTH ASSESSMENT AND INDICATORS OF ADYAR CREEK

S.No	Feature	Indicator	Desired Value	Actual Value	Category
1	Area	% Wetland converted to non-wetland use since 2000	0%	More than 20%	E
2	Hydrology and Catchment	Ratio of number of natural inlets chocked and diverted to total number of natural inlets	0-0.2	0	A
		Ratio of number of natural outlets chocked and diverted to total number of natural outlets	0-0.2	0	A
		Biological Oxygen Demand (3 water samples)	3-6 mg/l	Less than 20% sample meet the criteria	E
3	Biodiversity	% wetland area covered by invasive macrophytes	<10%	11-20%	B
		Annual waterbird count as a proportion of average count of last 5 years	Increasing	0.5-0.6	C
4	Governance	Clearly demarcated wetlands map	Wetlands map prepared and updated by SWA	Wetlands map prepared and updated by SWA	C
		Wetland Management Plan	Management plan prepared and approved by SWA	No Management plan	E
		Wetlands notification	Wetland is notified under WPA	No regulation	E
				Health Score	E

Date of Entry : 18/10/2024

WETLAND HEALTH

Wetlands in this range are in critical condition, with extensive conversion to non-wetland uses, very poor water quality (low BOD compliance), high invasive species coverage, and severely declining biodiversity. Governance is almost non-existent, with no management plans, updated maps, or legal notification. These wetlands require urgent and large-scale restoration efforts to prevent further degradation.





THREATS

Adyar Creek Wetland faces significant threats from pollution due to municipal solid waste and unauthorized effluents. The spread of invasive species also poses a major risk to its biodiversity and ecosystem stability.



7 PALLIKARANAI MARSH RESERVE FOREST

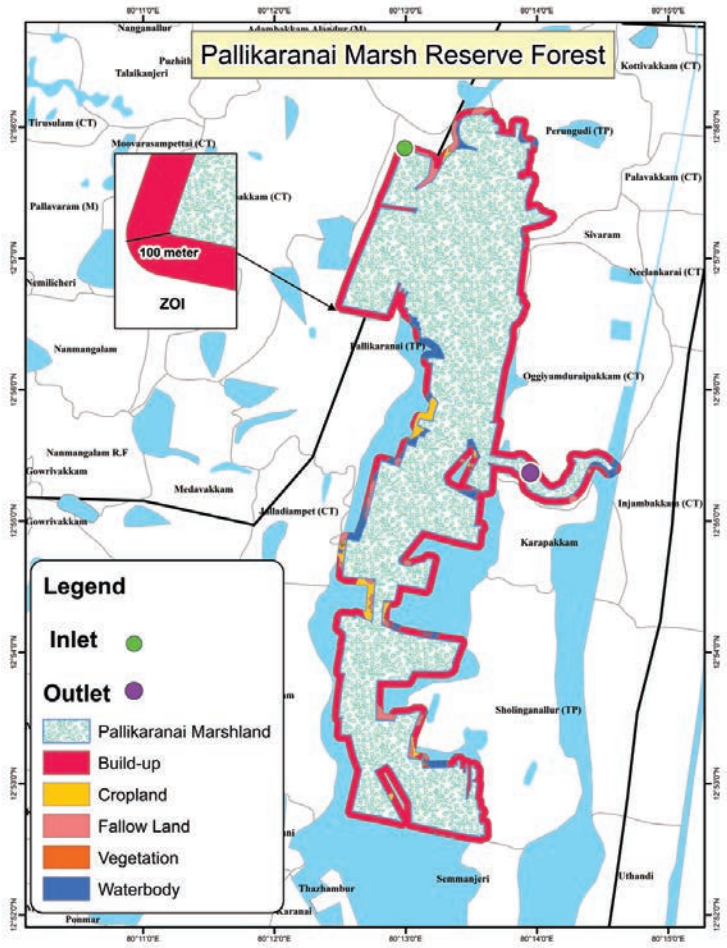
OVERVIEW AND LOCATION

Pallikaranai Marsh, located in Chennai, Tamil Nadu, is a vital urban freshwater wetland recognized for its ecological significance. The marsh is situated at geographical coordinates 12°55'40" N latitude and 80°13'13" E longitude and spans an area of 1,246 ha. Declared a Ramsar site in 2022, the wetland is surrounded by urban settlements, including Subramaniam Colony, Perungudi, Pallikaranai, and Velachery. It falls under the jurisdiction of the Tamil Nadu Forest Department, with its zone of influence covering 6,978 ha within a 5.21 km radius

ECOSYSTEM SERVICES

Wetland provides important ecosystem services, including the presence of medicinal plants, sediment filtration through substantial water flow, and a vital habitat for migratory birds. It also supports the life cycles of fish and amphibians, contributing to biodiversity and ecological health.

ZONE OF INFLUENCE MAP



HEALTH ASSESSMENT AND INDICATORS OF PALLIKARANAI MARSH RESERVE FOREST

S.No	Feature	Indicator	Desired Value	Actual Value	Category
1	Area	% Wetland converted to non-wetland use since 2000	0%	6-10%	C
2	Hydrology and Catchment	Ratio of number of natural inlets chocked and diverted to total number of natural inlets	0-0.2	0	A
		Ratio of number of natural outlets chocked and diverted to total number of natural outlets	0-0.2	0	A
		Biological Oxygen Demand (3 water samples)	3-6 mg/l	Less than 20% sample meet the criteria	E
3	Biodiversity	% wetland area covered by invasive macrophytes	<10%	More than 40%	E
		Annual waterbird count as a proportion of average count of last 5 years	Increasing	0.5-0.6	C
4	Governance	Clearly demarcated wetlands map	Wetlands map prepared and updated by SWA	Wetland map prepared but not placed under SWA	C
		Wetland Management Plan	Management plan prepared and approved by SWA	No Management plan	E
		Wetlands notification	Wetland is notified under WPA	No regulation	E
				Health Score	D

Date of Entry : 18/10/2024

WETLAND HEALTH

Wetlands in this category face severe ecological challenges, including significant conversion to non-wetland uses, poor water quality (low BOD compliance), high invasive species coverage, and declining biodiversity. Governance is largely absent, with no management plans, updated maps, or legal notification. Immediate and comprehensive conservation interventions are required to restore these wetlands.





THREATS

Pallikaranai Marsh faces significant threats from pollution, including unauthorized sewage discharge and various forms of contamination. Additionally, the spread of invasive species threatens the wetland's biodiversity and ecological balance.



8 ACHANKULAM

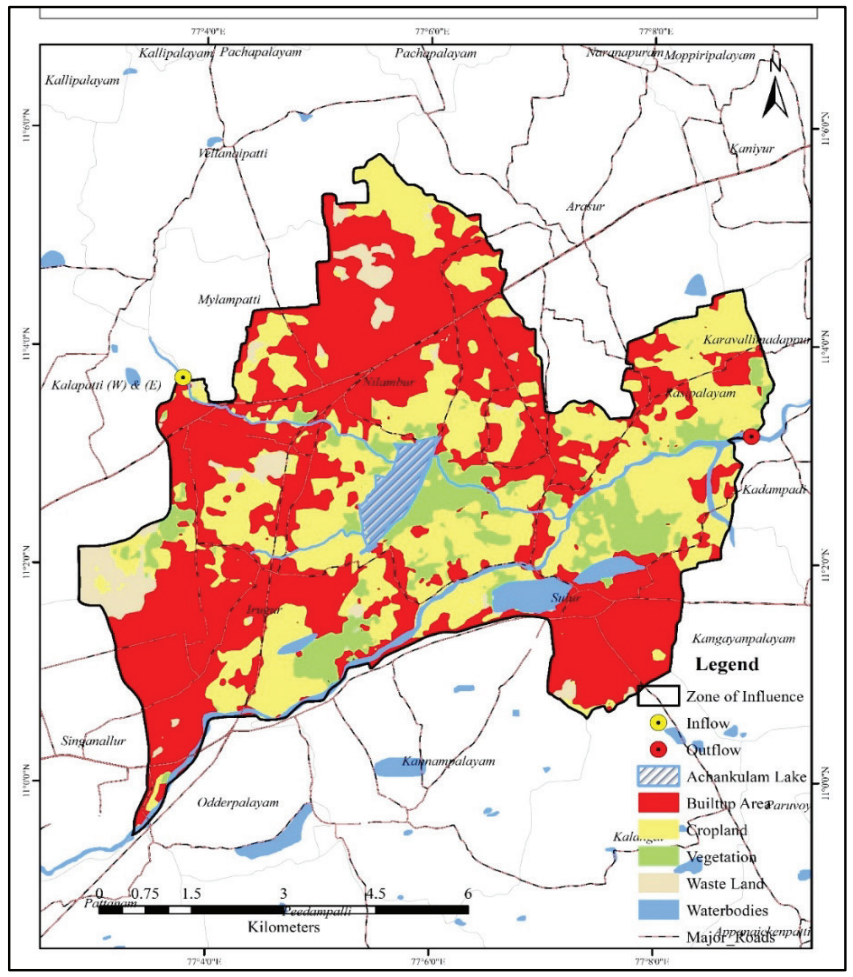
OVERVIEW AND LOCATION

Achankulam Wetland, also known as Mutugoundanpudur Kulam, is located in Coimbatore, Tamil Nadu, with geographical coordinates 11°2’35.4552” N latitude and 77°5’44.1024” E longitude. Spanning 102 ha, the wetland falls under the jurisdiction of the Water Resources Department and the Forest Department. The wetland is crucial for the local ecosystem and serves as a water source for surrounding villages like Achankulam, Muthugoundan Pudur, and others. It plays an essential role in regional water management and biodiversity conservation.

ECOSYSTEM SERVICES

Achankulam Wetland supports agriculture by providing water for irrigation. It hosts medicinal plants and is a major source of groundwater recharge. The wetland receives substantial water flow from surrounding areas, contributing to its health. A temple nearby adds cultural value, while the wetland serves as a key site for migratory water birds and supports various amphibians

ZONE OF INFLUENCE MAP



HEALTH ASSESSMENT AND INDICATORS OF ACHANKULAM WETLAND

S.No	Feature	Indicator	Desired Value	Actual Value	Category
1	Area	% Wetland converted to non-wetland use since 2000	0%	0%	A
2	Hydrology and Catchment	Ratio of number of natural inlets chocked and diverted to total number of natural inlets	0-0.2	0	A
		Ratio of number of natural outlets chocked and diverted to total number of natural outlets	0-0.2	0	A
		Biological Oxygen Demand (3 water samples)	3-6 mg/l	Less than 20% sample meet the criteria	E
3	Biodiversity	% wetland area covered by invasive macrophytes	<10%	11-20%	B
		Annual waterbird count as a proportion of average count of last 5 years	Increasing	0.5-0.6%	C
4	Governance	Clearly demarcated wetlands map	Wetlands map prepared and updated by SWA	Wetland map prepared but not placed under SWA	C
		Wetland Management Plan	Management plan prepared and approved by SWA	No Management plan	E
		Wetlands notification	Wetland is notified under WPA	No regulation	E
				Health Score	D

Date of Entry : 18/10/2024

WETLAND HEALTH

Wetlands in this category face severe ecological challenges, including significant conversion to non-wetland uses, poor water quality (low BOD compliance), high invasive species coverage, and declining biodiversity. Governance is largely absent, with no management plans, updated maps, or legal notification. Immediate and comprehensive conservation interventions are required to restore these wetlands.





THREATS

Achankulam Wetland faces threats from siltation, caused by substantial water flow from the surrounding watershed, and the spread of invasive species, which disrupt its ecological balance. These factors pose challenges to the wetland's sustainability and biodiversity.





9 THEN PENNAI RIVER MOUTH

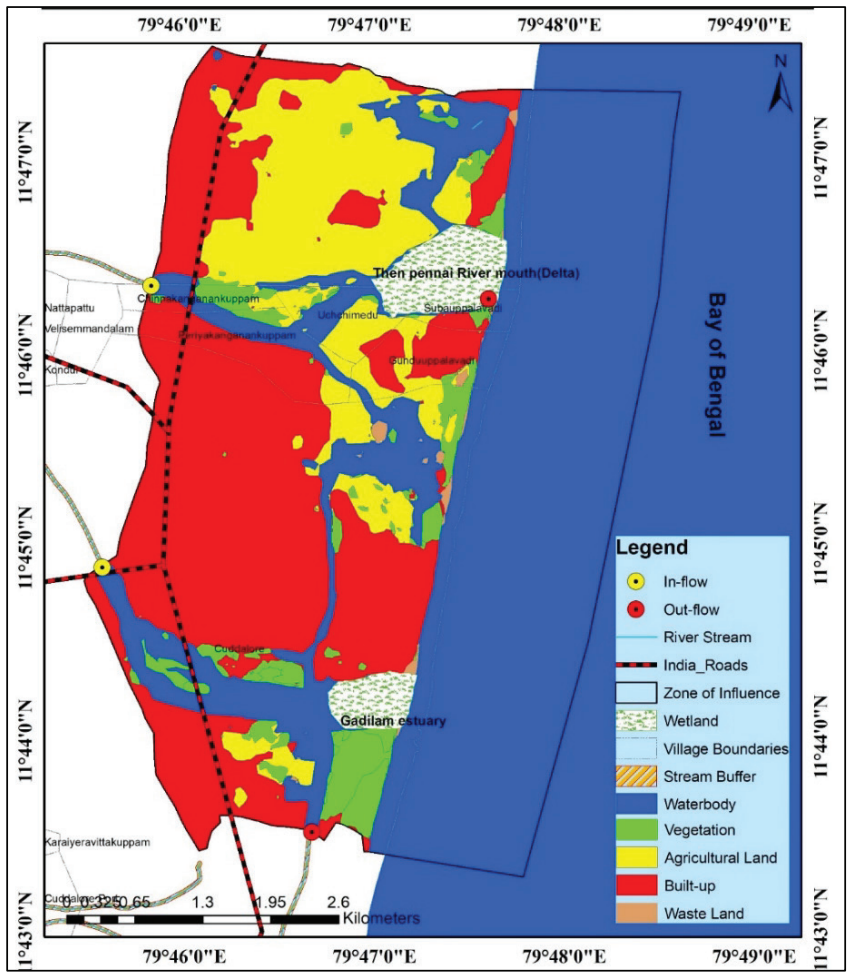
OVERVIEW AND LOCATION

Then Pennai River Mouth Wetland, located in Cuddalore, Tamil Nadu, spans 78.5 ha and is situated at the geographical coordinates of 11˚46’34.74” N latitude and 79˚47’38.68” E longitude. It is a coastal wetland formed by the confluence of the Then Pennai River and the Bay of Bengal, playing a crucial role in local water systems and biodiversity conservation. The wetland falls under the jurisdiction of the Tamil Nadu Forest Department, with a zone of influence covering 3,332.76 ha, impacting nearby areas such as Nanmedu, Uchchimedu, and Kanganankuppam.

ECOSYSTEM SERVICES

Then Pennai River Mouth Wetland supports communal fishing, provides medicinal plants, and offers protection from floods and storms through its mangroves. It has cultural importance with nearby temples and cremation activities. The wetland is a key site for migratory water birds and supports carbon sequestration through mangroves. Additionally, aquaculture activities are observed, contributing to local economies. These services emphasize the wetland's ecological and socio-economic value.

ZONE OF INFLUENCE MAP



HEALTH ASSESSMENT AND INDICATORS OF THEN PENNAI RIVER MOUTH

S.No	Feature	Indicator	Desired Value	Actual Value	Category
1	Area	% Wetland converted to non-wetland use since 2000	0%	0%	A
2	Hydrology and Catchment	Ratio of number of natural inlets chocked and diverted to total number of natural inlets	0-0.2	0	A
		Ratio of number of natural outlets chocked and diverted to total number of natural outlets	0-0.2	0	A
		Biological Oxygen Demand (3 water samples)	3-6 mg/l	80-100% sample meet the criteria	A
3	Biodiversity	% wetland area covered by invasive macrophytes	<10%	<10%	A
		Annual waterbird count as a proportion of average count of last 5 years	Increasing	0.5-0.6	C
4	Governance	Clearly demarcated wetlands map	Wetlands map prepared and updated by SWA	Wetland map prepared but not placed under SWA	C
		Wetland Management Plan	Management plan prepared and approved by SWA	No Management plan	E
		Wetlands notification	Wetland is notified under WPA	No regulation	E
				Health Score	C

Date of Entry : 18/10/2024

WETLAND HEALTH

Wetlands in this range show poor ecological health, with some conversion to non-wetland uses, declining waterbird counts, and significant issues with water quality (low BOD compliance). Invasive species coverage is moderate to high, and governance is weak, with most wetlands lacking management plans, updated maps, or legal notification. Urgent conservation efforts are needed to address these challenges.



THREATS

The main threat to Then Pennai River Mouth Wetland is the spread of invasive species, which disrupts the native ecosystem and biodiversity. These species out compete local flora and fauna, leading to ecological imbalance.



10 GADILAM ESTUARY

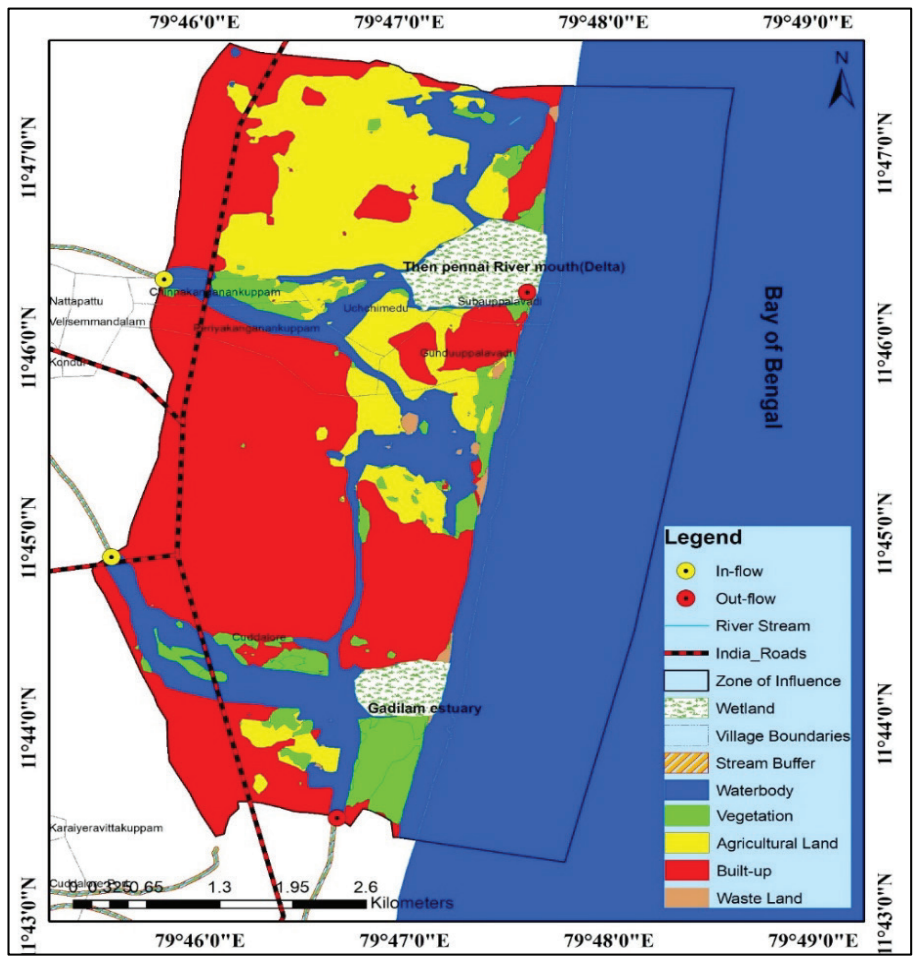
OVERVIEW AND LOCATION

Gadilam Estuary, located in Cuddalore, Tamil Nadu, spans 37.54 ha and is situated at the geographical coordinates of 11˚44’8.4804” N latitude and 79˚47’2.2668” E longitude. It is a coastal estuary formed by the confluence of the Gadilam River and the Bay of Bengal, providing vital support for local water systems and biodiversity. The wetland is under the jurisdiction of the Tamil Nadu Forest Department, with a zone of influence covering 3,373.78 ha, affecting nearby areas such as Sothikkuppam, Pudupalayam, and Sonankuppam.

ECOSYSTEM SERVICES

Gadilam Wetland offers key ecosystem services, including communal fishing and the availability of medicinal plants. The wetland's mangroves play a vital role in buffering communities from floods and storms. It holds cultural value with temples and cremation activities around it. Additionally, the mangroves contribute significantly to carbon sequestration. These services highlight the wetland's importance to both local communities and the environment.

ZONE OF INFLUENCE MAP



HEALTH ASSESSMENT AND INDICATORS OF GADILAM ESTUARY

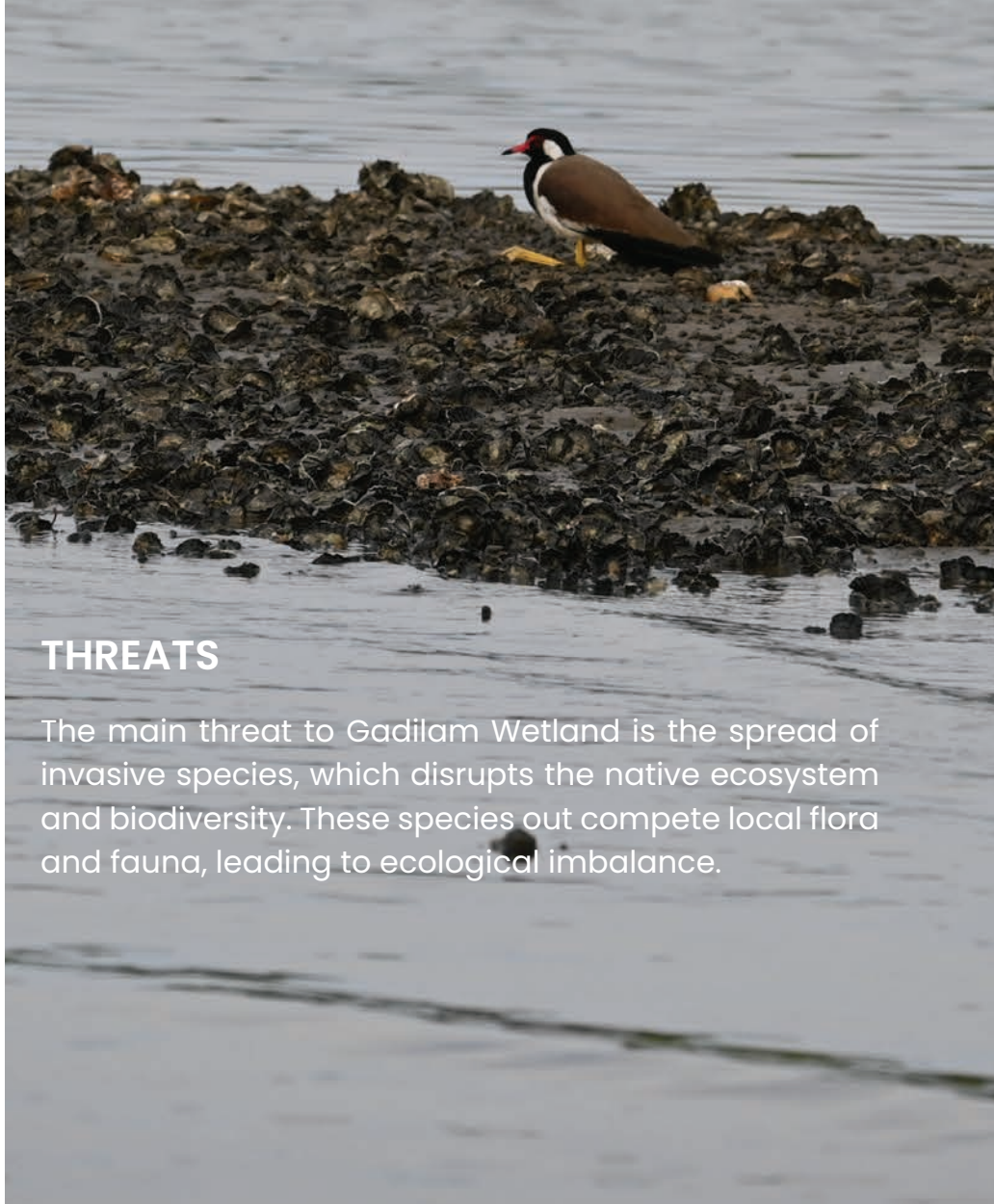
S.No	Feature	Indicator	Desired Value	Actual Value	Category
1	Area	% Wetland converted to non-wetland use since 2000	0%	0%	A
2	Hydrology and Catchment	Ratio of number of natural inlets chocked and diverted to total number of natural inlets	0-0.2	0	A
		Ratio of number of natural outlets chocked and diverted to total number of natural outlets	0-0.2	0	A
		Biological Oxygen Demand (3 water samples)	3-6 mg/l	Less than 20% sample meet the criteria	E
3	Biodiversity	% wetland area covered by invasive macrophytes	<10%	<10%	A
		Annual waterbird count as a proportion of average count of last 5 years	Increasing	0.5-0.6	C
4	Governance	Clearly demarcated wetlands map	Wetlands map prepared and updated by SWA	Wetland map prepared but not placed under SWA	C
		Wetland Management Plan	Management plan prepared and approved by SWA	No Management plan	E
		Wetlands notification	Wetland is notified under WPA	No regulation	E
				Health Score	D

Date of Entry : 18/10/2024

WETLAND HEALTH

Wetlands in this category face severe ecological challenges, including significant conversion to non-wetland uses, poor water quality (low BOD compliance), high invasive species coverage, and declining biodiversity. Governance is largely absent, with no management plans, updated maps, or legal notification. Immediate and comprehensive conservation interventions are required to restore these wetlands.





THREATS

The main threat to Gadilam Wetland is the spread of invasive species, which disrupts the native ecosystem and biodiversity. These species out compete local flora and fauna, leading to ecological imbalance.



11 PICHAVARAM MANGROVE FOREST

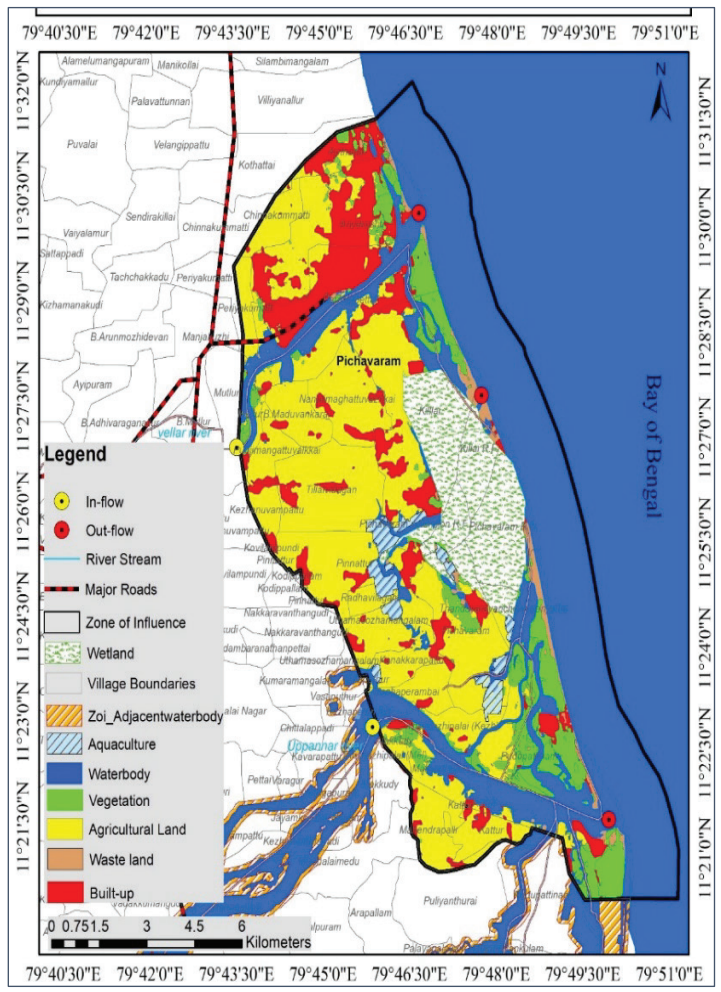
OVERVIEW AND LOCATION

Pichavaram Mangrove Forest, located in Cuddalore, Tamil Nadu, spans 1,478.48 ha and is situated at the geographical coordinates of 11˚26’17” N latitude and 79˚47’11” E longitude. This coastal wetland is a crucial mangrove ecosystem formed by the backwaters of the Bay of Bengal, and it is interconnected with the Vellar and Coleroon Estuaries. The wetland is under the jurisdiction of the Tamil Nadu Forest Department, with a zone of influence covering 15,576.85 ha, impacting nearby areas such as Killai, Pichavaram, and Kanakkarapattu. The wetland plays a vital role in supporting local biodiversity, water regulation, and mitigating coastal erosion.

ECOSYSTEM SERVICES

Pichavaram Mangrove Forest provides key ecosystem services such as supporting local fisheries, hosting medicinal plants, and acting as a buffer against floods and storms. It is a vital site for migratory water birds, supports the life cycle of fish and amphibians, and hosts aquaculture activities.

ZONE OF INFLUENCE MAP



HEALTH ASSESSMENT AND INDICATORS OF PICHAVARAM MANGROVE FOREST

S.No	Feature	Indicator	Desired Value	Actual Value	Category
1	Area	% Wetland converted to non-wetland use since 2000	0%	0%	A
2	Hydrology and Catchment	Ratio of number of natural inlets chocked and diverted to total number of natural inlets	0-0.2	0	A
		Ratio of number of natural outlets chocked and diverted to total number of natural outlets	0-0.2	0	A
		Biological Oxygen Demand (3 water samples)	3-6 mg/l	Less than 20% sample meet the criteria	E
3	Biodiversity	% wetland area covered by invasive macrophytes	<10%	<10%	A
		Annual waterbird count as a proportion of average count of last 5 years	Increasing	More than 0.7	A
4	Governance	Clearly demarcated wetlands map	Wetlands map prepared and updated by SWA	Wetland map prepared but not placed under SWA	C
		Wetland Management Plan	Management plan prepared and approved by SWA	No Management plan	E
		Wetlands notification	Wetland is notified under WPA	No regulation	E
				Health Score	D

Date of Entry : 18/10/2024

WETLAND HEALTH

Wetlands in this category face severe ecological challenges, including significant conversion to non-wetland uses, poor water quality (low BOD compliance), high invasive species coverage, and declining biodiversity. Governance is largely absent, with no management plans, updated maps, or legal notification. Immediate and comprehensive conservation interventions are required to restore these wetlands.





THREATS

The main threats to Pichavaram Mangrove Forest include the spread of invasive species, particularly ghost nuts, which are increasingly disrupting the native ecosystem and affecting biodiversity.





12 PIDARANKARAI WETLAND

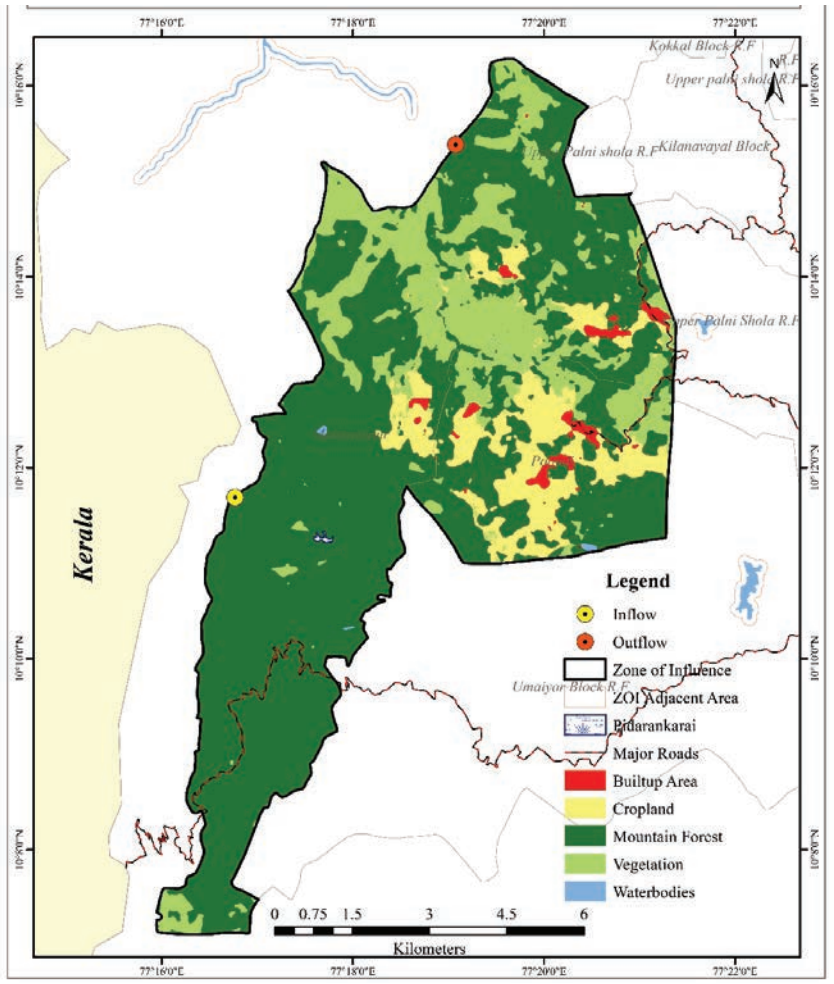
OVERVIEW AND LOCATION

Pidarankarai Wetland, located in Dindigul, Tamil Nadu, spans 3.35 ha and is situated at the geographical coordinates of 10°11'12.9" N latitude and 77°17'44.3" E longitude. The wetland is a permanent stream and falls under the jurisdiction of the Tamil Nadu Forest Department. Its zone of influence extends over 7,117.51 ha, impacting nearby areas like Kilavarai, Poondi, Polur, and Kodaikanal. The wetland is characterized by its average depth of 1.5 meters, with a maximum depth of 2.5 meters, and lies at an elevation of 2,028 meters above mean sea level. The main water source is rainfall inflow, and the water is circumneutral with low salinity. The area experiences a relatively cooler climate, with annual rainfall of 157.6 mm, and temperatures ranging from 16.75°C to 24.75°C.

ECOSYSTEM SERVICES

Pidarankarai Wetland provides several important ecosystem services. It supports medicinal plants, with a few species found around the wetland. The wetland plays a key role in groundwater recharge, acting as a major source of replenishment for local groundwater. Additionally, the wetland contributes to water purification, helping to cleanse water that flows through it. It also serves as a critical site for migratory water birds, offering a suitable habitat for large congregations of these birds.

ZONE OF INFLUENCE MAP



HEALTH ASSESSMENT AND INDICATORS OF PIDARANKARAI WETLAND

S.No	Feature	Indicator	Desired Value	Actual Value	Category
1	Area	% Wetland converted to non-wetland use since 2000	0%	0%	A
2	Hydrology and Catchment	Ratio of number of natural inlets chocked and diverted to total number of natural inlets	0-0.2	0	A
		Ratio of number of natural outlets chocked and diverted to total number of natural outlets	0-0.2	0	A
		Biological Oxygen Demand (3 water samples)	3-6 mg/l	Less than 20% sample meet the criteria	E
3	Biodiversity	% wetland area covered by invasive macrophytes	<10%	<10%	A
		Annual waterbird count as a proportion of average count of last 5 years	Increasing	0.5-0.6	C
4	Governance	Clearly demarcated wetlands map	Wetlands map prepared and updated by SWA	Wetland map prepared but not placed under SWA	C
		Wetland Management Plan	Management plan prepared and approved by SWA	No Management plan	E
		Wetlands notification	Wetland is notified under WPA	No regulation	E
				Health Score	D

Date of Entry : 18/10/2024

WETLAND HEALTH

Wetlands in this category face severe ecological challenges, including significant conversion to non-wetland uses, poor water quality (low BOD compliance), high invasive species coverage, and declining biodiversity. Governance is largely absent, with no management plans, updated maps, or legal notification. Immediate and comprehensive conservation interventions are required to restore these wetlands.



THREATS

A significant threat to Pidarankarai Wetland is the spread of invasive species, which disturb the natural balance of the ecosystem. These non-native species dominate over the indigenous plants and animals, resulting in a loss of biodiversity and ecological instability.

13 JAMBHAKULAM WETLAND



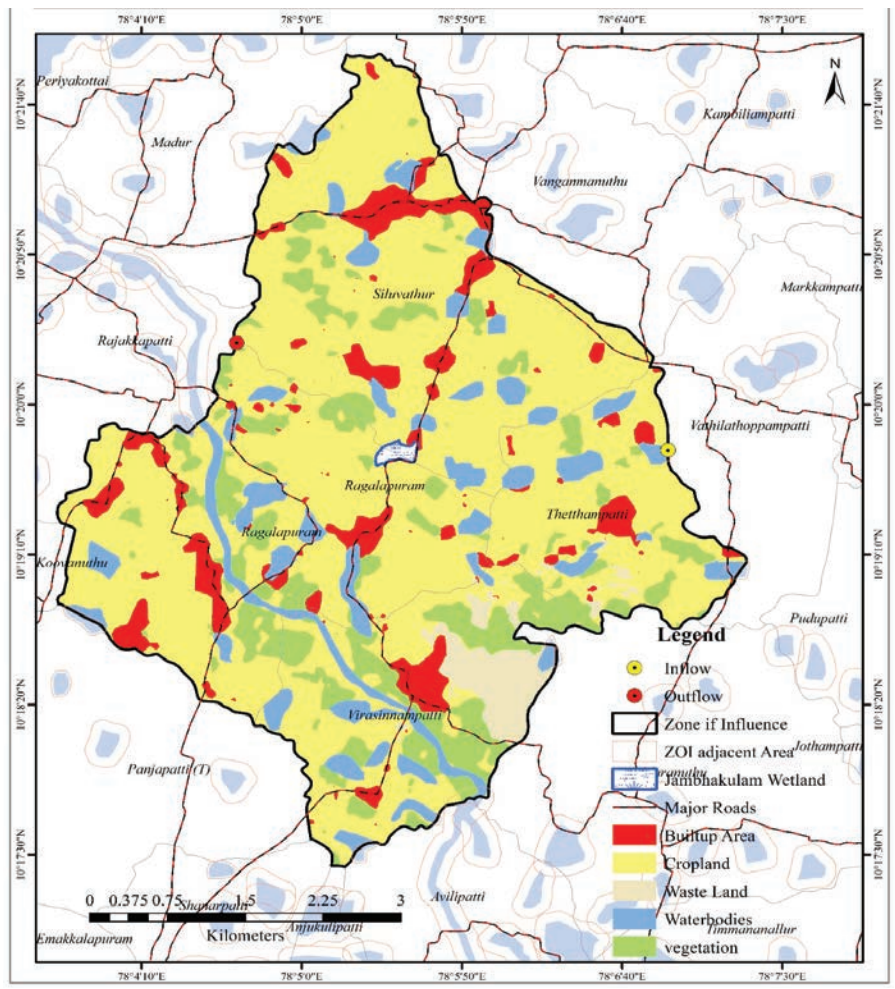
OVERVIEW AND LOCATION

Jambhakulam Wetland, located in the Dindigul district of Tamil Nadu, spans an area of 6.36 ha and is situated at the geographical coordinates of 10°19'45.6204" N latitude and 78°5'35.7576" E longitude. The wetland is primarily a seasonal freshwater body and falls under the jurisdiction of the Village Administration & Public Works Development. The zone of influence of the wetland extends over 2,678.18 ha, covering areas such as Sirulvathur, Ragalapuram, Pethiagoundanpatti, and Thetthampatti.

ECOSYSTEM SERVICES

Jambhakulam Wetland provides key ecosystem services, including water for agriculture, support for fisheries, medicinal plants, and groundwater recharge. It acts as a sediment sink, holds cultural and religious significance, and hosts migratory water birds. However, mining for road construction has impacted the area.

ZONE OF INFLUENCE MAP



HEALTH ASSESSMENT AND INDICATORS OF JAMBHAKULAM WETLAND

S.No	Feature	Indicator	Desired Value	Actual Value	Category
1	Area	% Wetland converted to non-wetland use since 2000	0%	0%	A
2	Hydrology and Catchment	Ratio of number of natural inlets chocked and diverted to total number of natural inlets	0-0.2	0	A
		Ratio of number of natural outlets chocked and diverted to total number of natural outlets	0-0.2	0	A
		Biological Oxygen Demand (3 water samples)	3-6 mg/l	Less than 20% sample meet the criteria	E
3	Biodiversity	% wetland area covered by invasive macrophytes	<10%	<10%	A
		Annual waterbird count as a proportion of average count of last 5 years	Increasing	0.5-0.6	C
4	Governance	Clearly demarcated wetlands map	Wetlands map prepared and updated by SWA	Wetland map prepared but not placed under SWA	C
		Wetland Management Plan	Management plan prepared and approved by SWA	No Management plan	E
		Wetlands notification	Wetland is notified under WPA	No regulation	E
				Health Score	D

Date of Entry : 18/10/2024

WETLAND HEALTH

Wetlands in this category face severe ecological challenges, including significant conversion to non-wetland uses, poor water quality (low BOD compliance), high invasive species coverage, and declining biodiversity. Governance is largely absent, with no management plans, updated maps, or legal notification. Immediate and comprehensive conservation interventions are required to restore these wetlands.





THREATS

The primary threats to Jambhakulam Wetland include mining activities, which have resulted in the formation of a trench, and the spread of invasive species, which threatens the native biodiversity.



14 KONALARU MARSH

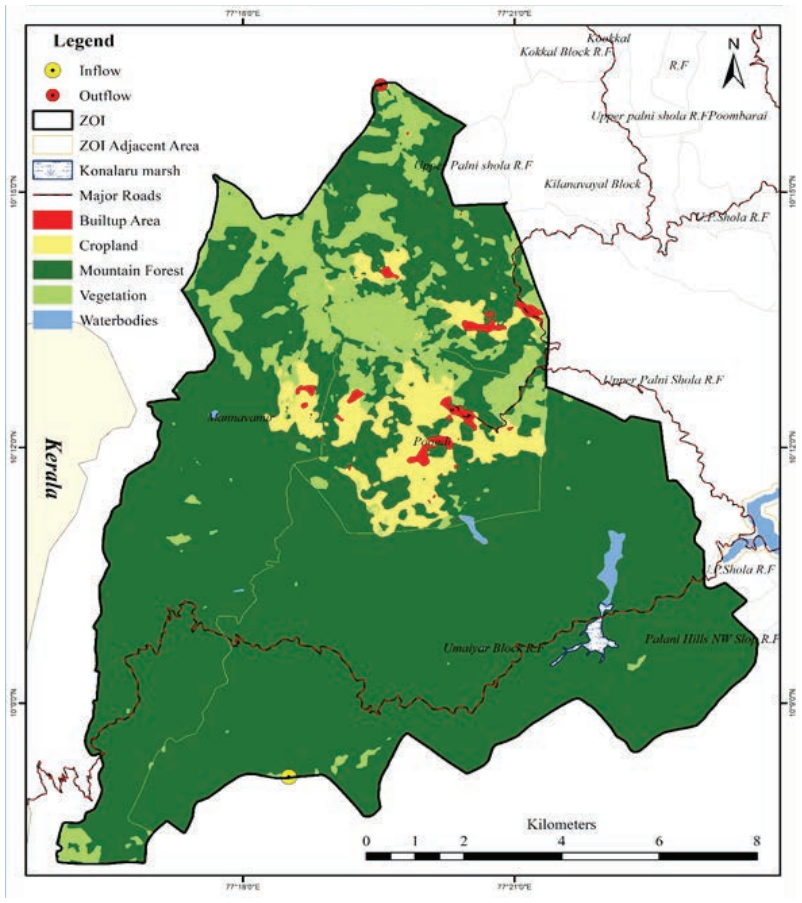
OVERVIEW AND LOCATION

Konalaru Marsh, located in Dindigul, Tamil Nadu, spans 35.15 ha and is situated at the geographical coordinates of 10°9'43.8156" N latitude and 77°21'55.818" E longitude. This wetland is a permanent freshwater marsh that is primarily fed by rainfall and inflow from nearby rivers. It lies at an elevation of 2209 meters above sea level. The wetland falls under the jurisdiction of the Tamil Nadu Forest Department, with a zone of influence covering 12,956.95 ha, impacting surrounding areas such as Poondi, Kavunji, Kanakkari, Periyur, Umaiyur, and Kodaikanal.

ECOSYSTEM SERVICES

Konalaru Marsh Wetland provides several important ecosystem services. It supports medicinal plants, with a few species found around the wetland. The wetland plays a key role in groundwater recharge, acting as a major source of replenishment for local groundwater. Additionally, the wetland contributes to water purification, helping to cleanse water that flows through it. It also serves as a critical site for migratory water birds, offering a suitable habitat for large congregations of these birds.

ZONE OF INFLUENCE MAP



HEALTH ASSESSMENT AND INDICATORS OF KONALARU MARSH

S.No	Feature	Indicator	Desired Value	Actual Value	Category
1	Area	% Wetland converted to non-wetland use since 2000	0%	0%	A
2	Hydrology and Catchment	Ratio of number of natural inlets chocked and diverted to total number of natural inlets	0-0.2	0	A
		Ratio of number of natural outlets chocked and diverted to total number of natural outlets	0-0.2	0	A
		Biological Oxygen Demand (3 water samples)	3-6 mg/l	Less than 20% sample meet the criteria	E
3	Biodiversity	% wetland area covered by invasive macrophytes	<10%	<10%	A
		Annual waterbird count as a proportion of average count of last 5 years	Increasing	0.5-0.6	C
4	Governance	Clearly demarcated wetlands map	Wetlands map prepared and updated by SWA	Wetland map prepared but not placed under SWA	C
		Wetland Management Plan	Management plan prepared and approved by SWA	No Management plan	E
		Wetlands notification	Wetland is notified under WPA	No regulation	E
				Health Score	D

Date of Entry : 18/10/2024

WETLAND HEALTH

Wetlands in this category face severe ecological challenges, including significant conversion to non-wetland uses, poor water quality (low BOD compliance), high invasive species coverage, and declining biodiversity. Governance is largely absent, with no management plans, updated maps, or legal notification. Immediate and comprehensive conservation interventions are required to restore these wetlands.





THREATS

A significant threat to Konalaru Marsh Wetland is the spread of invasive species, which disrupt the natural balance of the ecosystem. These non-native species outcompete native plants and animals, leading to a decline in biodiversity and overall ecological instability.





15 VELLODE BIRD SANCTUARY

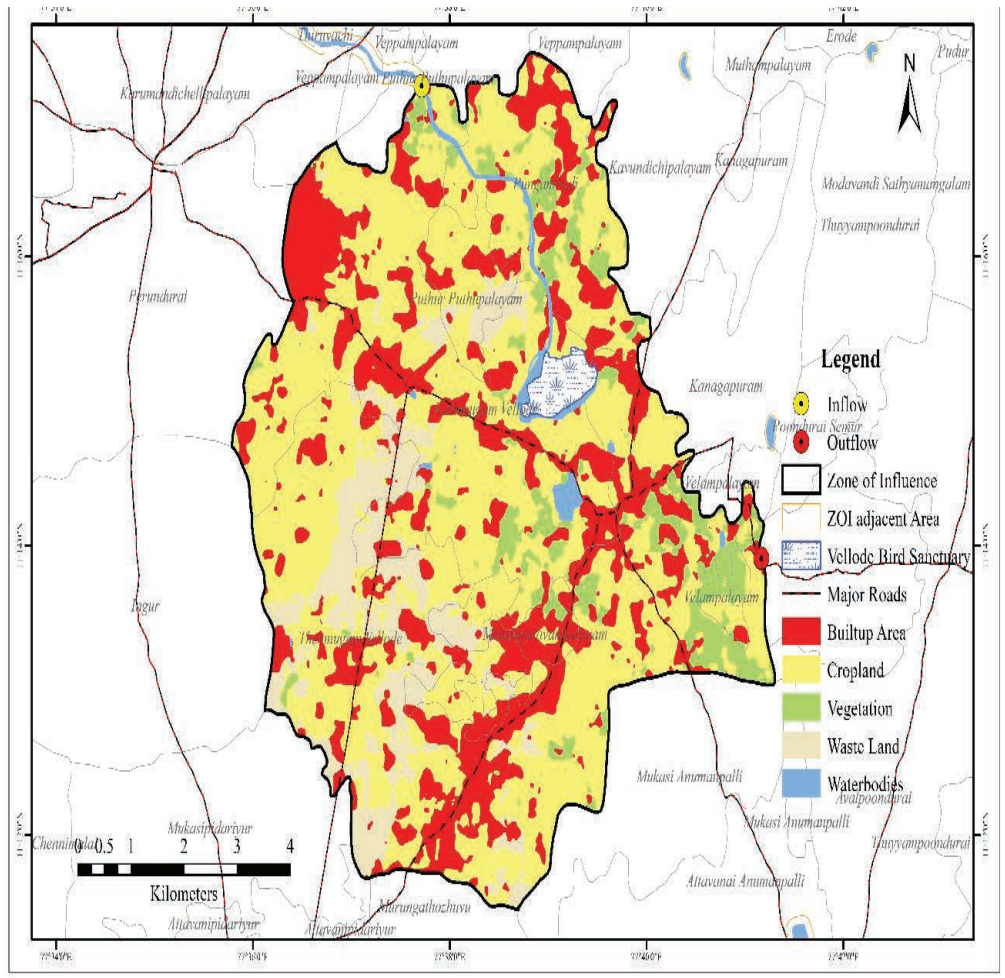
OVERVIEW AND LOCATION

Vellode Bird Sanctuary, also known as Vellode Kanmoi, is located in Erode, Tamil Nadu, covering an area of 74.71 ha. It is situated at the geographical coordinates of 11°15′06″ N latitude and 77°39′06″ E longitude. The wetland receives water primarily from the Perumpallam Canal, which is fed by the Bhavani River, and is classified as a permanent freshwater marsh. The sanctuary is under the jurisdiction of the Tamil Nadu Forest Department and has a zone of influence of 6,673.49 ha, extending to nearby areas like Mettuppalayam, Semandam Palayam, and Thalaiyakattur.

ECOSYSTEM SERVICES

Vellode Birds Sanctuary provides essential ecosystem services, including serving as a water source for agriculture (when Full Supply Level is reached), supporting medicinal plants, and offering recreational opportunities for nature enthusiasts and bird watchers. It contributes to groundwater recharge, acts as a sink for sediments, and holds cultural and religious significance due to the nearby temple. The sanctuary also attracts migratory water birds, making it a key site for birdwatching, and supports the life cycle of various fish and amphibian species.

ZONE OF INFLUENCE MAP



HEALTH ASSESSMENT AND INDICATORS OF VELLODE BIRD SANCTUARY

S.No	Feature	Indicator	Desired Value	Actual Value	Category
1	Area	% Wetland converted to non-wetland use since 2000	0%	0%	A
2	Hydrology and Catchment	Ratio of number of natural inlets chocked and diverted to total number of natural inlets	0-0.2	0	A
		Ratio of number of natural outlets chocked and diverted to total number of natural outlets	0-0.2	0	A
		Biological Oxygen Demand (3 water samples)	3-6 mg/l	Less than 20% sample meet the criteria	E
3	Biodiversity	% wetland area covered by invasive macrophytes	<10%	<10%	A
		Annual waterbird count as a proportion of average count of last 5 years	Increasing	More than 0.7	A
4	Governance	Clearly demarcated wetlands map	Wetlands map prepared and updated by SWA	Wetlands map prepared and updated by SWA	A
		Wetland Management Plan	Management plan prepared and approved by SWA	Management plan prepared and approved by SWA	A
		Wetlands notification	Wetland is notified under WPA	No regulation	E
				Health Score	B

Date of Entry : 18/10/2024

WETLAND HEALTH

Wetlands in this range exhibit moderate ecological health, with minimal conversion to non-wetland uses and generally intact hydrology. However, some wetlands face challenges like moderate invasive species coverage or declining waterbird counts. Governance is partially effective, with some wetlands lacking management plans or legal notification, indicating room for improvement in conservation efforts.



THREATS

The Vellode Birds Sanctuary faces threats such as siltation, which is currently present due to substantial water flow from the surrounding watershed. Additionally, the spread of invasive species is a potential threat, which could impact the sanctuary's ecosystem.



16 PONNERI LAKE

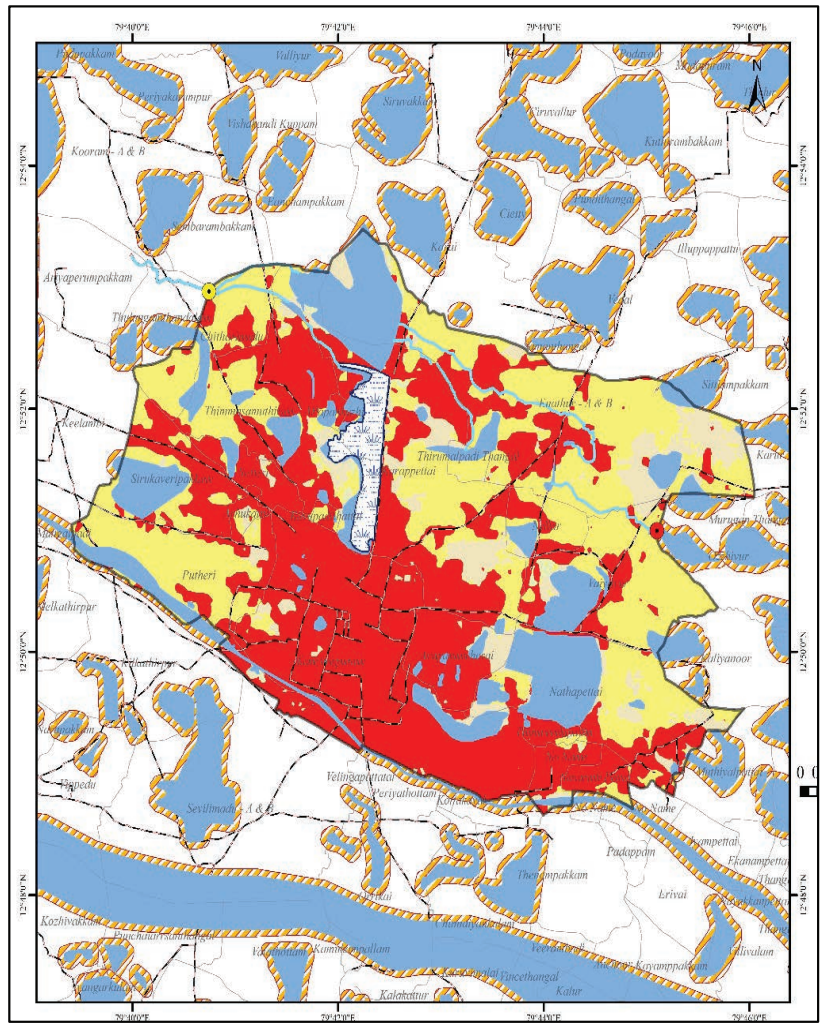
OVERVIEW AND LOCATION

Ponneri Lake, located in Kancheepuram, Tamil Nadu, spans 131.48 ha and is situated at the geographical coordinates of 12°52'02.2" N latitude and 79°42'25.3" E longitude. The wetland receives water primarily from catchment runoff and direct inflow from nearby rivers, and it is classified as a seasonal/ intermittent lake. Ponneri Lake is under the jurisdiction of both the Forest Department and the Water Resources Department. The wetland's zone of influence spans 6,286.39 ha, extending to nearby areas such as Konnerikuppam, Ekambarapuram, and Karaipettai.

ECOSYSTEM SERVICES

Ponneri Lake offers several valuable ecosystem services, including providing water for agriculture through its outflow, supporting communal fishing activities, and hosting medicinal plants. It plays a crucial role in groundwater recharge and acts as a sink for sediments due to substantial water flow from the surrounding watershed. The lake serves as an important site for the congregation of migratory water birds and supports the life cycle of fish and amphibians.

ZONE OF INFLUENCE MAP



HEALTH ASSESSMENT AND INDICATORS OF PONNERI LAKE

S.No	Feature	Indicator	Desired Value	Actual Value	Category
1	Area	% Wetland converted to non-wetland use since 2000	0%	11-20%	D
2	Hydrology and Catchment	Ratio of number of natural inlets chocked and diverted to total number of natural inlets	0-0.2	0	A
		Ratio of number of natural outlets chocked and diverted to total number of natural outlets	0-0.2	0	A
		Biological Oxygen Demand (3 water samples)	3-6 mg/l	80-100% sample meet the criteria	A
3	Biodiversity	% wetland area covered by invasive macrophytes	<10%	21-30%	C
		Annual waterbird count as a proportion of average count of last 5 years	Increasing	0.5-0.6	C
4	Governance	Clearly demarcated wetlands map	Wetlands map prepared and updated by SWA	Wetland map prepared but not placed under SWA	C
		Wetland Management Plan	Management plan prepared and approved by SWA	No Management plan	E
		Wetlands notification	Wetland is notified under WPA	No regulation	E
				Health Score	D

Date of Entry : 18/10/2024

Date of Entry : 18/10/2024

WETLAND HEALTH

Wetlands in this category face severe ecological challenges, including significant conversion to non-wetland uses, poor water quality (low BOD compliance), high invasive species coverage, and declining biodiversity. Governance is largely absent, with no management plans, updated maps, or legal notification. Immediate and comprehensive conservation interventions are required to restore these wetlands.





THREATS

Ponneri Lake faces several environmental threats. Pollution is a significant concern, as municipal solid waste is being dumped around the bund. Siltation is also present, driven by substantial water flow from the surrounding watershed. Additionally, the spread of invasive species poses a threat, with their presence being noted and the potential for further spread.



17 MUTTUKADU BACKWATERS

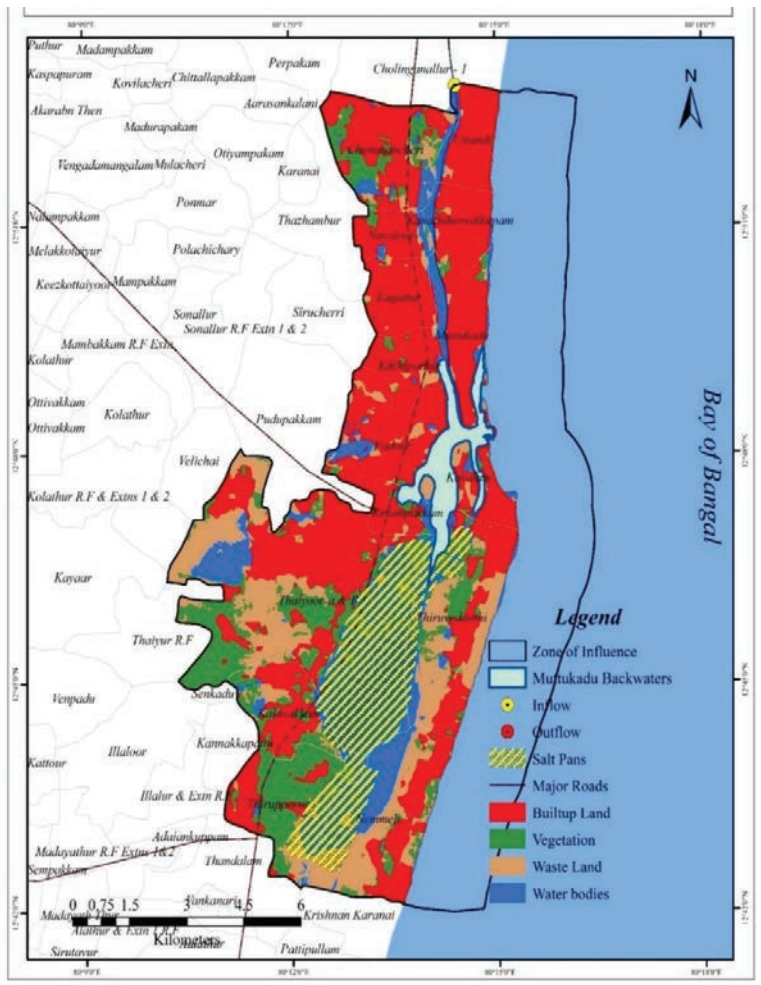
OVERVIEW AND LOCATION

Muttukadu Backwaters, located in Kancheepuram, Tamil Nadu, spans 341.79 ha and is situated at the geographical coordinates of 12°48'8.7084" N latitude and 80°14'18.1896" E longitude. This coastal wetland is formed by the backwaters from the Bay of Bengal, and its depth ranges from 4 to 5.5 meters, with an elevation of 0 meters above mean sea level. The wetland falls under the jurisdiction of the Tamil Nadu Forest Department, and its zone of influence covers 9,442.30 ha, impacting nearby areas such as Kovalam, Kunnakkadu, and Kelambakkam.

ECOSYSTEM SERVICES

Muttukadu wetland offers ecosystem services like supporting communal fishing, medicinal plants, and recreational activities, especially boating. Mangroves buffer against floods and storms, while the wetland is a site for migratory birds and amphibians. It also aids in carbon sequestration and has observed saltpans.

ZONE OF INFLUENCE MAP



HEALTH ASSESSMENT AND INDICATORS OF MUTTUKADU BACKWATERS

S.No	Feature	Indicator	Desired Value	Actual Value	Category
1	Area	% Wetland converted to non-wetland use since 2000	0%	1-5%	B
2	Hydrology and Catchment	Ratio of number of natural inlets chocked and diverted to total number of natural inlets	0-0.2	0	A
		Ratio of number of natural outlets chocked and diverted to total number of natural outlets	0-0.2	0	A
		Biological Oxygen Demand (3 water samples)	3-6 mg/l	Less than 20% sample meet the criteria	E
3	Biodiversity	% wetland area covered by invasive macrophytes	<10%	11-20%	B
		Annual waterbird count as a proportion of average count of last 5 years	Increasing	0.5-0.6	C
4	Governance	Clearly demarcated wetlands map	Wetlands map prepared and updated by SWA	Wetland map prepared but not placed under SWA	C
		Wetland Management Plan	Management plan prepared and approved by SWA	No Management plan	E
		Wetlands notification	Wetland is notified under WPA	No regulation	E
				Health Score	E

Date of Entry : 18/10/2024

WETLAND HEALTH

Wetlands in this range are in critical condition, with extensive conversion to non-wetland uses, very poor water quality (low BOD compliance), high invasive species coverage, and severely declining biodiversity. Governance is almost non-existent, with no management plans, updated maps, or legal notification. These wetlands require urgent and large-scale restoration efforts to prevent further degradation.





THREATS

Muttukkadu faces significant threats from pollution, particularly unauthorized sewage disposal, which is currently present in the area. Additionally, the spread of invasive species poses a potential threat to the ecosystem, further impacting its health and biodiversity.





18 VEMBANNUR WETLAND COMPLEX

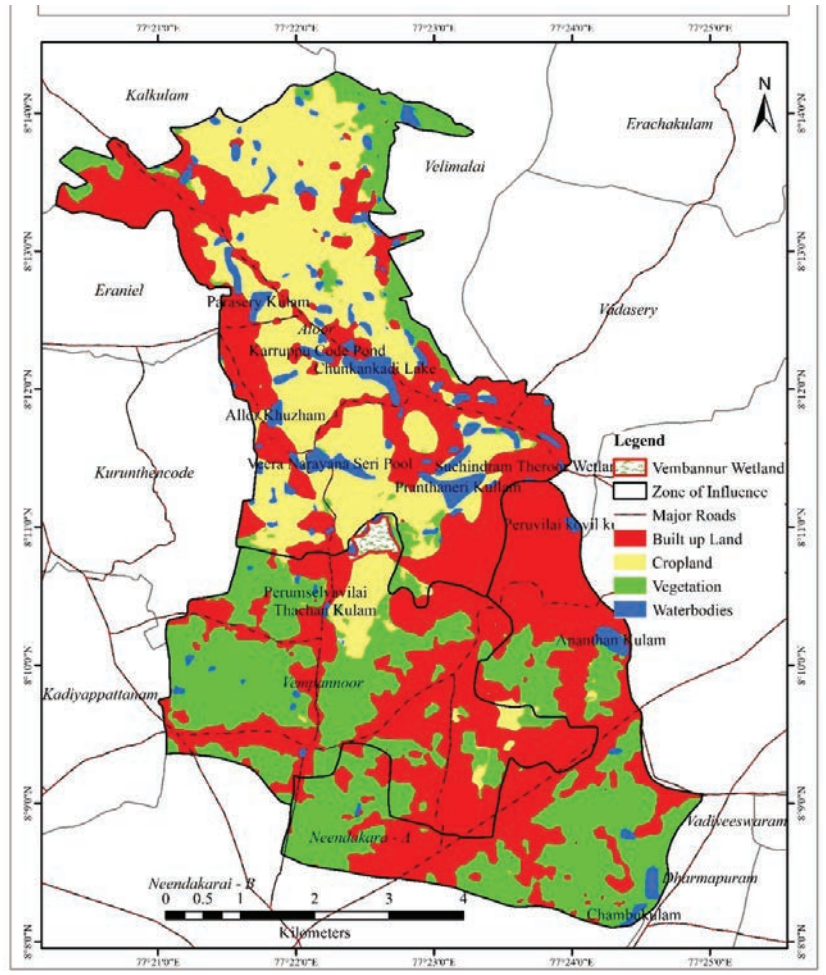
OVERVIEW AND LOCATION

Vembannur Wetland Complex, located in Kanyakumari, Tamil Nadu, spans 19.8 ha and is situated at the geographical coordinates of 8°7'21.72" N latitude and 77°22'17.76" E longitude. This human-made wetland, also known as Vembannur Tank, is primarily fed by water from the Pannaivakkal Stream. With an average depth of 3 meters and a maximum depth of 4.5 meters, the wetland is located at an elevation of 18 meters above mean sea level. It falls under the jurisdiction of both the Tamil Nadu Forest Department and the Public Works Development, with a zone of influence covering 4,696.03 ha. The wetland's surrounding areas include Vembannur, Rajakamangalam, and Melasankarankuzhi.

ECOSYSTEM SERVICES

Vembannur wetland provides essential ecosystem services, including water for agriculture, fisheries by locals, and medicinal plants. It is a major source of groundwater recharge and has significant cultural and religious value, with a temple located nearby. The wetland also supports high congregation of migratory water birds.

ZONE OF INFLUENCE MAP



HEALTH ASSESSMENT AND INDICATORS OF VEMBANNUR WETLAND COMPLEX

S.No	Feature	Indicator	Desired Value	Actual Value	Category
1	Area	% Wetland converted to non-wetland use since 2000	0%	0%	A
2	Hydrology and Catchment	Ratio of number of natural inlets chocked and diverted to total number of natural inlets	0-0.2	0	A
		Ratio of number of natural outlets chocked and diverted to total number of natural outlets	0-0.2	0	A
		Biological Oxygen Demand (3 water samples)	3-6 mg/l	Less than 20% sample meet the criteria	E
3	Biodiversity	% wetland area covered by invasive macrophytes	<10%	<10%	A
		Annual waterbird count as a proportion of average count of last 5 years	Increasing	0.6-0.7	B
4	Governance	Clearly demarcated wetlands map	Wetlands map prepared and updated by SWA	Wetland map prepared but not placed under SWA	C
		Wetland Management Plan	Management plan prepared and approved by SWA	No Management plan	E
		Wetlands notification	Wetland is notified under WPA	No regulation	E
				Health Score	D

Date of Entry : 18/10/2024

WETLAND HEALTH

Wetlands in this category face severe ecological challenges, including significant conversion to non-wetland uses, poor water quality (low BOD compliance), high invasive species coverage, and declining biodiversity. Governance is largely absent, with no management plans, updated maps, or legal notification. Immediate and comprehensive conservation interventions are required to restore these wetlands.





THREATS

Vembannur wetland is threatened by pollution, particularly around the bund of the wetland complex, which poses a current and potential risk to its ecosystem. The spread of invasive species is also a concern, as it is both present and has the potential to worsen, further impacting the wetland's biodiversity and ecological balance.

19 SUCHINDRAM THEROOR WETLAND COMPLEX

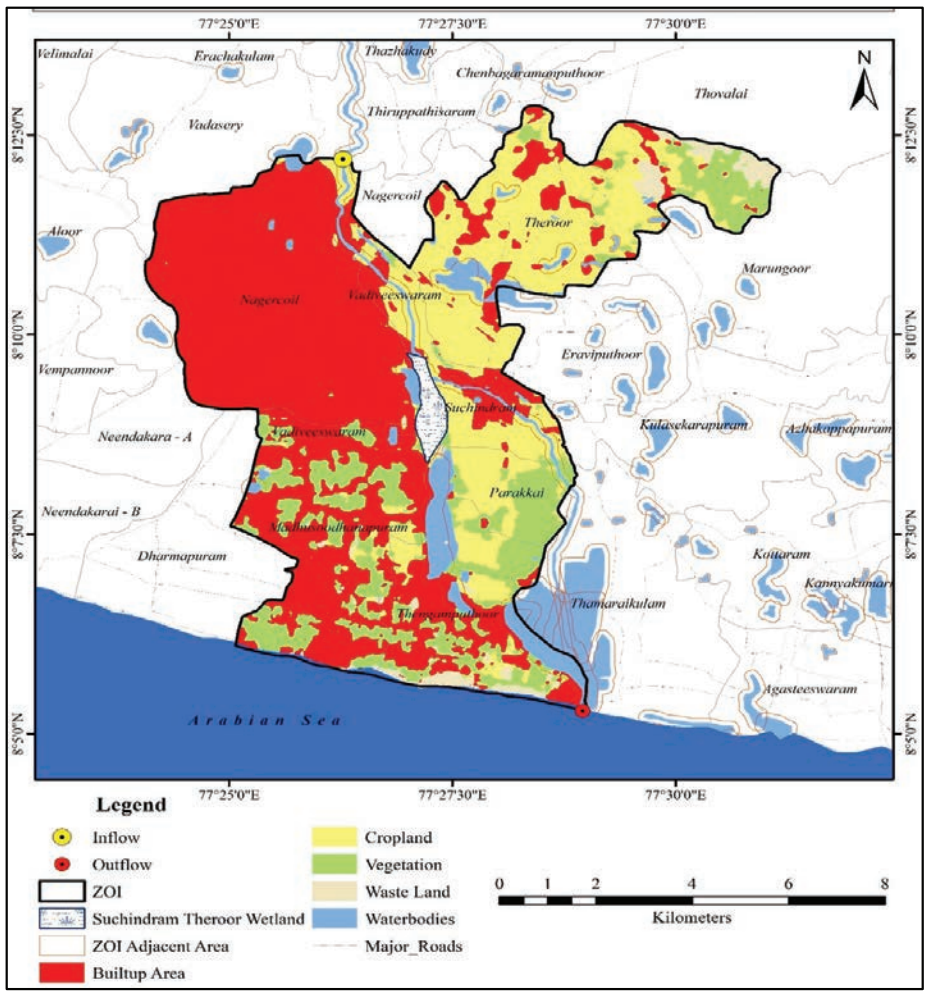
OVERVIEW AND LOCATION

The Suchindram Theroor Wetland Complex, located in Kanyakumari, Tamil Nadu, spans 99.62 ha and is situated at the geographical coordinates of 8°9'03" N latitude and 77°27'14" E longitude. This human-made wetland, also known as Suchindram Kulam, is primarily fed by the Kodaiyur River. With an average depth of 2.5 meters and a maximum depth of 4 meters, the wetland is located at an elevation of 15 meters above mean sea level. The wetland is under the jurisdiction of the Tamil Nadu Forest Department, and its zone of influence covers 8,673.5 ha, affecting surrounding areas such as Suchindram and Melasankarankuzhi.

ECOSYSTEM SERVICES

Suchindram wetland provides ecosystem services such as the presence of medicinal plants, groundwater recharge, and significant cultural and religious values with a temple around the wetland. It also serves as a suitable site for the congregation of migratory water birds.

ZONE OF INFLUENCE MAP



HEALTH ASSESSMENT AND INDICATORS OF SUCHINDRAM THEROOR WETLAND COMPLEX

S.No	Feature	Indicator	Desired Value	Actual Value	Category
1	Area	% Wetland converted to non-wetland use since 2000	0%	11-20%	D
2	Hydrology and Catchment	Ratio of number of natural inlets chocked and diverted to total number of natural inlets	0-0.2	0	A
		Ratio of number of natural outlets chocked and diverted to total number of natural outlets	0-0.2	0	A
		Biological Oxygen Demand (3 water samples)	3-6 mg/l	Less than 20% sample meet the criteria	E
3	Biodiversity	% wetland area covered by invasive macrophytes	<10%	11-20%	B
		Annual waterbird count as a proportion of average count of last 5 years	Increasing	More than 0.7	A
4	Governance	Clearly demarcated wetlands map	Wetlands map prepared and updated by SWA	Wetlands map prepared and updated by SWA	A
		Wetland Management Plan	Management plan prepared and approved by SWA	Management plan prepared and approved by SWA	A
		Wetlands notification	Wetland is notified under WPA	No regulation	E
				Health Score	C

Date of Entry : 18/10/2024

WETLAND HEALTH

Wetlands in this range show poor ecological health, with some conversion to non-wetland uses, declining waterbird counts, and significant issues with water quality (low BOD compliance). Invasive species coverage is moderate to high, and governance is weak, with most wetlands lacking management plans, updated maps, or legal notification. Urgent conservation efforts are needed to address these challenges.



THREATS

Suchindram wetland faces medium-level pollution, with household sewage discharge and plastics present around the bund of the wetland complex. The spread of invasive species is also a potential threat to the ecosystem.



20 RAJAKAMANGALAM WETLAND

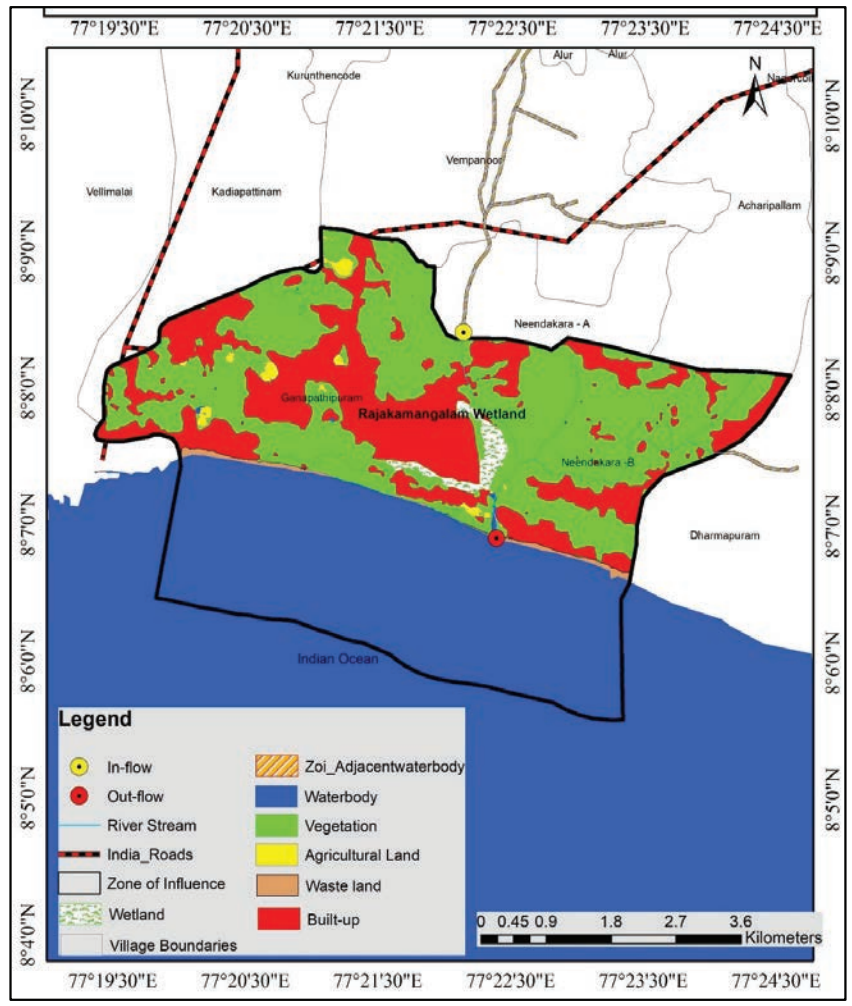
OVERVIEW AND LOCATION

The Rajakamangalam Wetland, located in Kanyakumari, Tamil Nadu, spans 42.39 ha and is situated at the geographical coordinates of 8°7'21.72" N latitude and 77°22'17.76" E longitude. This estuarine wetland receives water from the Tamiraparani River, and its average depth is 3 meters, with a maximum depth of 5 meters. The wetland lies at an elevation of 3 meters above mean sea level and is under the jurisdiction of the Tamil Nadu Forest Department. The wetland's zone of influence covers 3,404.47 ha, affecting nearby areas such as Rajakamangalam, Kottavilai, and Kaniyakulam.

ECOSYSTEM SERVICES

Rajakamangalam wetland offers ecosystem services such as communal fishing, the presence of medicinal plants, and significant groundwater recharge. It also provides a suitable site for the congregation of migratory water birds.

ZONE OF INFLUENCE MAP



HEALTH ASSESSMENT AND INDICATORS OF RAJAKAMANGALAM WETLAND

S.No	Feature	Indicator	Desired Value	Actual Value	Category
1	Area	% Wetland converted to non-wetland use since 2000	0%	0%	A
2	Hydrology and Catchment	Ratio of number of natural inlets chocked and diverted to total number of natural inlets	0-0.2	0	A
		Ratio of number of natural outlets chocked and diverted to total number of natural outlets	0-0.2	0	A
		Biological Oxygen Demand (3 water samples)	3-6 mg/l	Less than 20% sample meet the criteria	E
3	Biodiversity	% wetland area covered by invasive macrophytes	<10%	11-20%	B
		Annual waterbird count as a proportion of average count of last 5 years	Increasing	0.6-0.7	B
4	Governance	Clearly demarcated wetlands map	Wetlands map prepared and updated by SWA	Wetland map prepared but not placed under SWA	C
		Wetland Management Plan	Management plan prepared and approved by SWA	No Management plan	E
		Wetlands notification	Wetland is notified under WPA	No regulation	E
				Health Score	D

Date of Entry : 18/10/2024

WETLAND HEALTH

Wetlands in this category face severe ecological challenges, including significant conversion to non-wetland uses, poor water quality (low BOD compliance), high invasive species coverage, and declining biodiversity. Governance is largely absent, with no management plans, updated maps, or legal notification. Immediate and comprehensive conservation interventions are required to restore these wetlands.



THREATS

The main threat to Rajakamangalam Wetland is the spread of invasive species, which disrupts the native ecosystem and biodiversity. These species out compete local flora and fauna, leading to ecological imbalance.

21 MANAKUDY ESTUARY

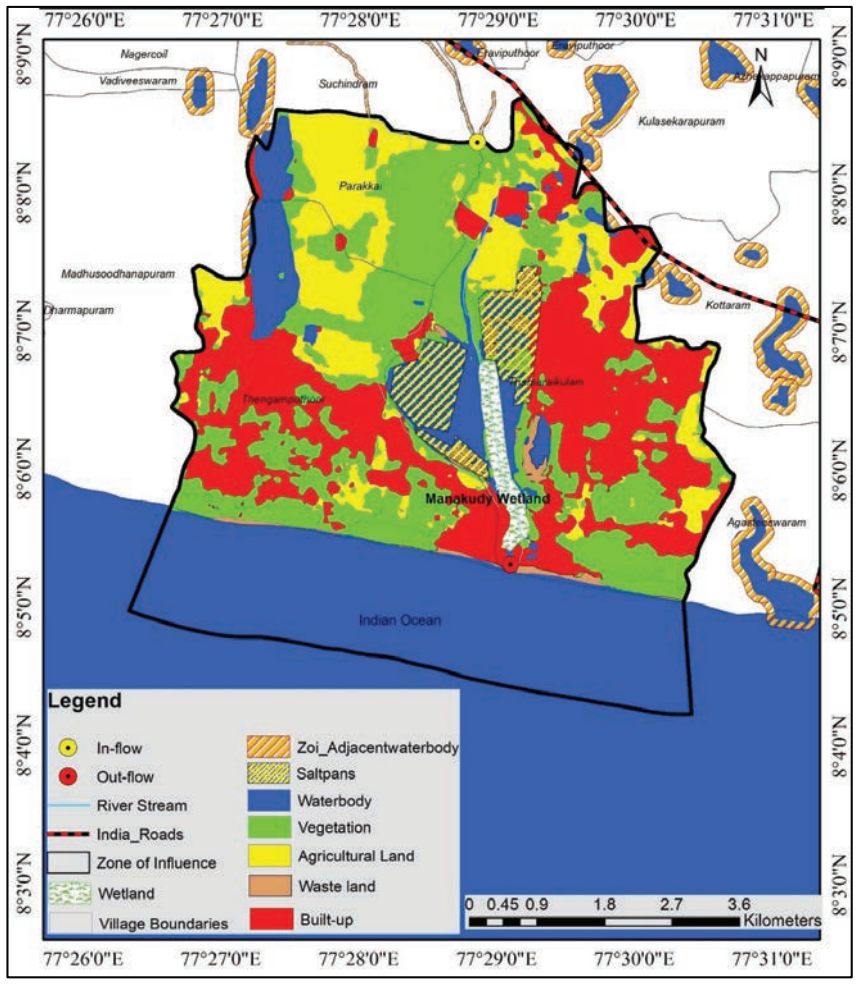
OVERVIEW AND LOCATION

Manakudy Estuary, located in Kanyakumari, Tamil Nadu, spans 63.06 ha and lies at geographical coordinates 8°5'40.92" N latitude and 77°29'9.24" E longitude. It is a coastal estuary formed by the confluence of the Pazhayar River and the Arabian Sea, playing a vital role in supporting local hydrological systems and biodiversity. The wetland, managed by the Tamil Nadu Forest Department, has a zone of influence covering 4,508.23 ha with an irregular radius of approximately 3.87 km, impacting nearby villages like Agaatheeswaram, Melamanakudy, Keelamanakudy, Manakudy Colony, Puthalam, and Kovalam.

ECOSYSTEM SERVICES

The Manakudy Wetland supports communal fishing, groundwater recharge, and hosts medicinal plants. It holds cultural and religious significance, with traditional rituals and festivals. The site is growing in tourism, offering recreational activities like boating, and is crucial for migratory water birds, contributing to biodiversity conservation.

ZONE OF INFLUENCE MAP



HEALTH ASSESSMENT AND INDICATORS OF MANAKUDY ESTUARY

S.No	Feature	Indicator	Desired Value	Actual Value	Category
1	Area	% Wetland converted to non-wetland use since 2000	0%	More than 20%	E
2	Hydrology and Catchment	Ratio of number of natural inlets chocked and diverted to total number of natural inlets	0-0.2	0	A
		Ratio of number of natural outlets chocked and diverted to total number of natural outlets	0-0.2	0	A
		Biological Oxygen Demand (3 water samples)	3-6 mg/l	Less than 20% sample meet the criteria	E
3	Biodiversity	% wetland area covered by invasive macrophytes	<10%	11-20%	B
		Annual waterbird count as a proportion of average count of last 5 years	Increasing	0.5-0.6	C
4	Governance	Clearly demarcated wetlands map	Wetlands map prepared and updated by SWA	Wetlands map prepared and updated by SWA	A
		Wetland Management Plan	Management plan prepared and approved by SWA	Management plan prepared and approved by SWA	A
		Wetlands notification	Wetland is notified under WPA	No regulation	E
				Health Score	D

Date of Entry : 18/10/2024

WETLAND HEALTH

Wetlands in this category face severe ecological challenges, including significant conversion to non-wetland uses, poor water quality (low BOD compliance), high invasive species coverage, and declining biodiversity. Governance is largely absent, with no management plans, updated maps, or legal notification. Immediate and comprehensive conservation interventions are required to restore these wetlands.



THREATS

The main threat to Manakudy Wetland is the spread of invasive species, which disrupts the native ecosystem and biodiversity. These species out compete local flora and fauna, leading to ecological imbalance.



22 THIRUMULLIVASAL MANGROVE FOREST

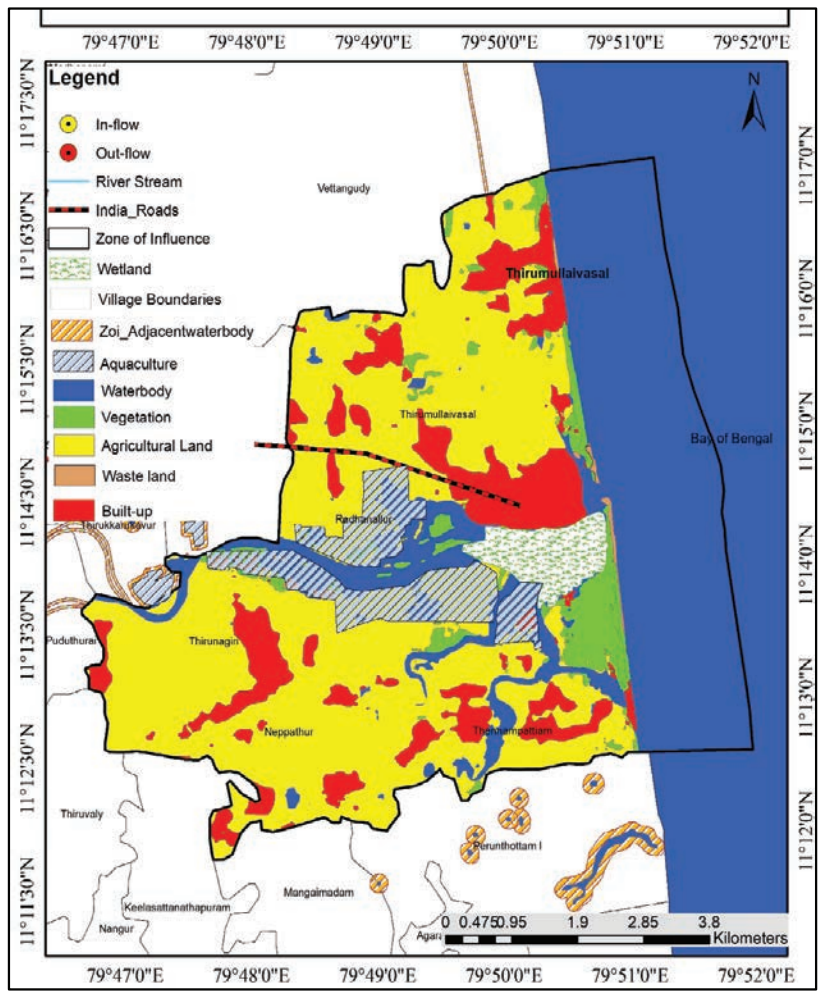
OVERVIEW AND LOCATION

Thirumullaivasal Mangrove Forest, situated in Mayiladuthurai, Tamil Nadu, spans 144.88 ha and is located at the geographical coordinates of 11°14’6.054” N latitude and 79°50’39.2352” E longitude. This coastal wetland is characterized by its thriving mangroves, which play a significant role in local biodiversity and hydrological systems. The wetland receives water from rainfall, catchment runoff, and backwaters from the Bay of Bengal. Managed by the Tamil Nadu Forest Department, the zone of influence covers an area of 5,359.69 ha, with an irregular radius of approximately 4.18 km, impacting nearby villages such as Thennampattiam, Sirkazhi, Thirumullaivasal, Puthur, Koozhaiyar, Kaveripoompattinam, Vanagiri, and Poombuhar.

ECOSYSTEM SERVICES

The Thirumullaivasal Wetland offers several ecosystem services, including the presence of medicinal plant and mangroves that buffer against floods and storms while aiding carbon sequestration. It supports a high congregation of migratory water birds, sustains the life cycle of nine amphibian species, and hosts aquaculture activities observed during ground-truthing.

ZONE OF INFLUENCE MAP



HEALTH ASSESSMENT AND INDICATORS OF THIRUMULLIVASAL MANGROVE FOREST

S.No	Feature	Indicator	Desired Value	Actual Value	Category
1	Area	% Wetland converted to non-wetland use since 2000	0%	1-5%	B
2	Hydrology and Catchment	Ratio of number of natural inlets chocked and diverted to total number of natural inlets	0-0.2	0	A
		Ratio of number of natural outlets chocked and diverted to total number of natural outlets	0-0.2	0	A
		Biological Oxygen Demand (3 water samples)	3-6 mg/l	Less than 20% sample meet the criteria	E
3	Biodiversity	% wetland area covered by invasive macrophytes	<10%	<10%	A
		Annual waterbird count as a proportion of average count of last 5 years	Increasing	0.5-0.6	C
4	Governance	Clearly demarcated wetlands map	Wetlands map prepared and updated by SWA	Wetland map prepared but not placed under SWA	C
		Wetland Management Plan	Management plan prepared and approved by SWA	No Management plan	E
		Wetlands notification	Wetland is notified under WPA	No regulation	E
				Health Score	D

Date of Entry : 18/10/2024

WETLAND HEALTH

Wetlands in this range show poor ecological health, with some conversion to non-wetland uses, declining waterbird counts, and significant issues with water quality (low BOD compliance). Invasive species coverage is moderate to high, and governance is weak, with most wetlands lacking management plans, updated maps, or legal notification. Urgent conservation efforts are needed to address these challenges.





THREATS

The Thirumullaivasal Wetland faces threats from the spread of invasive species, which disrupt the native ecosystem, impacting biodiversity and the ecological balance of the wetland.



23 PUTHUPATTINAM WETLAND



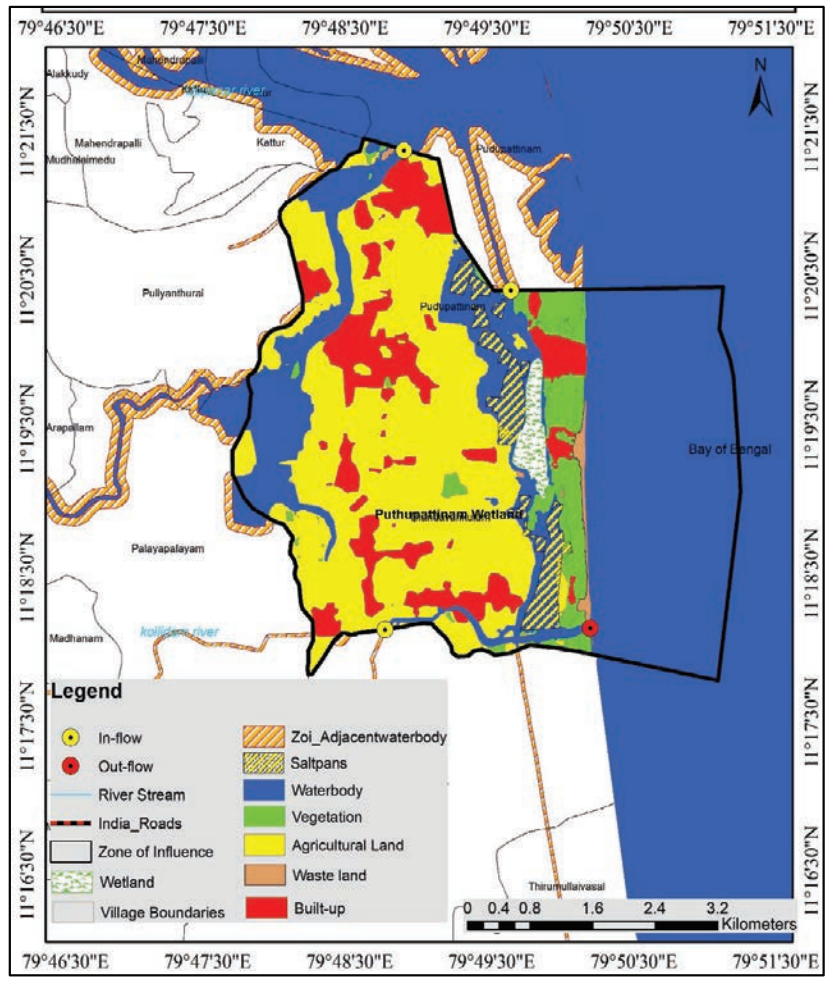
OVERVIEW AND LOCATION

Puthupattinam Wetland, located in Mayiladuthurai, Tamil Nadu, spans 41.68 ha and lies at the geographical coordinates of 11°19'33.98" N latitude and 79°49'49.19" E longitude. This coastal wetland features a mix of mangroves and waterbodies, playing a vital role in supporting local biodiversity and acting as a hydrological hub. The wetland receives water primarily from rainfall, catchment runoff, and backwaters from the Bay of Bengal. Managed by the Tamil Nadu Forest Department, its zone of influence covers an area of 2,941.03 ha, with an irregular radius of approximately 3.08 km. This zone impacts nearby villages, including Madavamedu, Thandavankulam, Thiruvalaputhur, Puthagaram, Pattavarthi, Mayiladuthurai, Anaimelagaram, and Sitharkadu.

ECOSYSTEM SERVICES

The Pudhupattinam Wetland offers essential ecosystem services, including communal fishing, medicinal plants, and aquaculture. Mangroves help buffer floods and storms while aiding carbon sequestration. It also supports fish, amphibian life cycles, and migratory water birds.

ZONE OF INFLUENCE MAP



HEALTH ASSESSMENT AND INDICATORS OF PUTHUPATTINAM WETLAND

S.No	Feature	Indicator	Desired Value	Actual Value	Category
1	Area	% Wetland converted to non-wetland use since 2000	0%	11-20%	D
2	Hydrology and Catchment	Ratio of number of natural inlets chocked and diverted to total number of natural inlets	0-0.2	0	A
		Ratio of number of natural outlets chocked and diverted to total number of natural outlets	0-0.2	0	A
		Biological Oxygen Demand (3 water samples)	3-6 mg/l	Less than 20% sample meet the criteria	E
3	Biodiversity	% wetland area covered by invasive macrophytes	<10%	<10%	A
		Annual waterbird count as a proportion of average count of last 5 years	Increasing	0.5-0.6	C
4	Governance	Clearly demarcated wetlands map	Wetlands map prepared and updated by SWA	Wetland map prepared but not placed under SWA	C
		Wetland Management Plan	Management plan prepared and approved by SWA	Wetland map not prepared	E
		Wetlands notification	Wetland is notified under WPA	No regulation	E
				Health Score	E

Date of Entry : 18/10/2024

WETLAND HEALTH

Wetlands in this range are in critical condition, with extensive conversion to non-wetland uses, very poor water quality (low BOD compliance), high invasive species coverage, and severely declining biodiversity. Governance is almost non-existent, with no management plans, updated maps, or legal notification. These wetlands require urgent and large-scale restoration efforts to prevent further degradation.

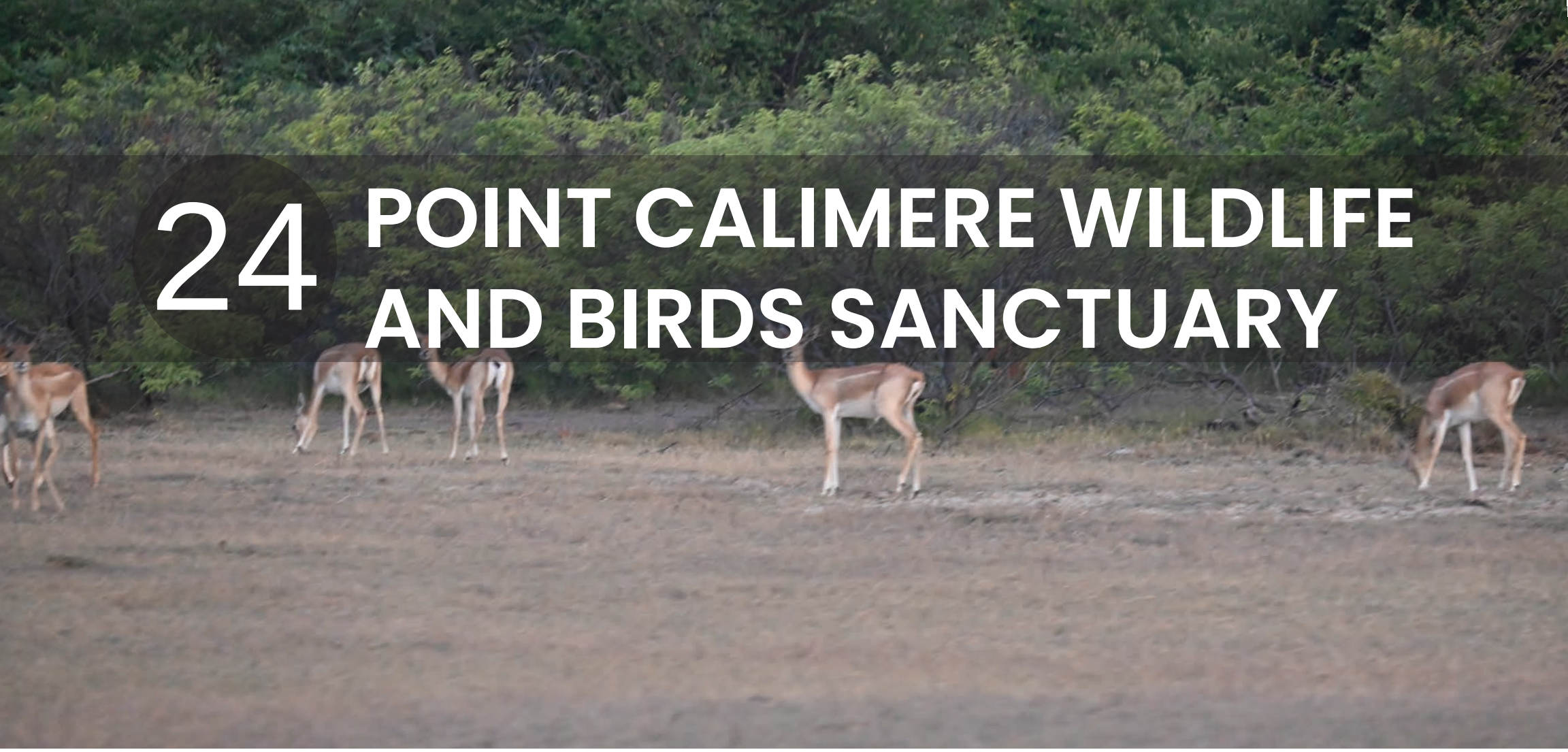




THREATS

Puthupattinam Wetland faces threats from the spread of invasive species, which disrupt the native ecosystem, impacting biodiversity and the ecological balance of the wetland.





24 POINT CALIMERE WILDLIFE AND BIRDS SANCTUARY

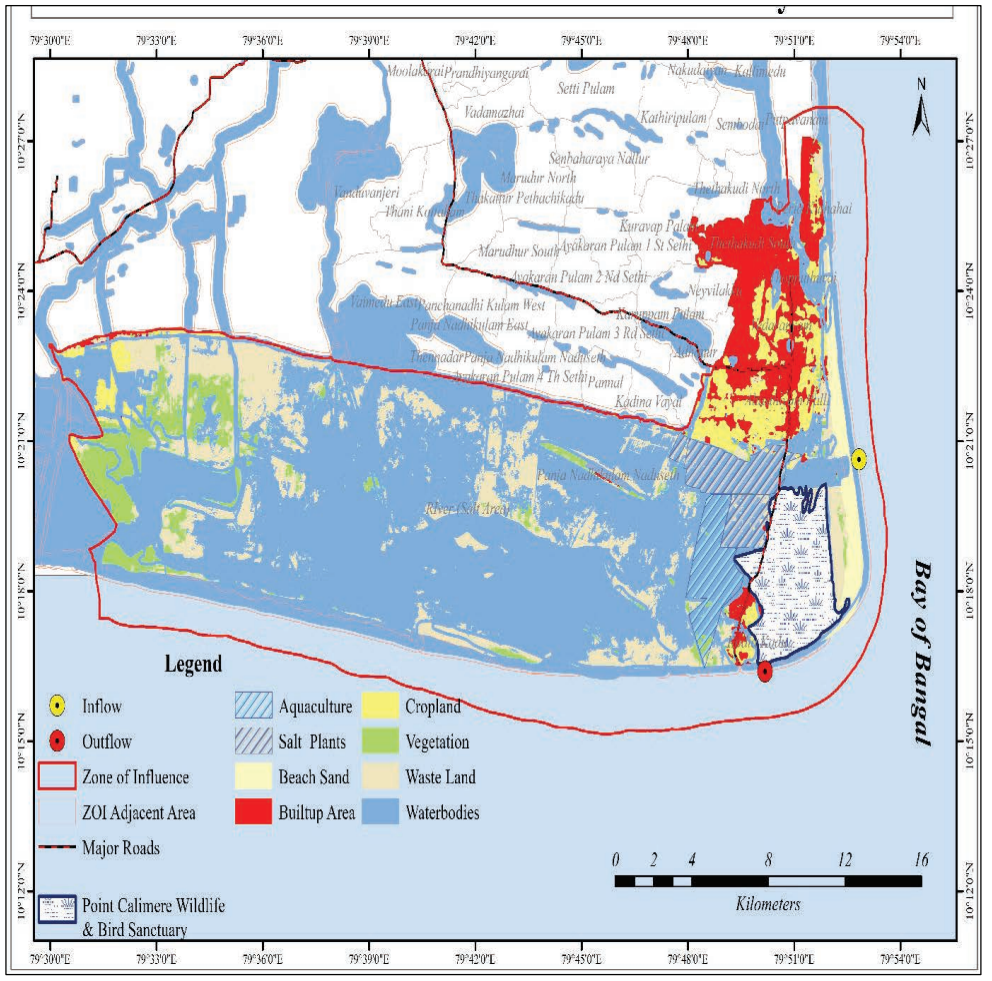
OVERVIEW AND LOCATION

Point Calimere Wildlife and Birds Sanctuary, also known as Kodikkarai Wetland, is located in Nagapattinam, Tamil Nadu, covering an area of 2,190 ha at 10°18’29.26” N and 79°50’26.65” E. Managed by the Tamil Nadu Forest Department, this coastal wetland comprises intertidal mudflats and mangroves, playing a critical role in supporting biodiversity. The wetland receives water from rainfall, catchment runoff, and backwaters of the Bay of Bengal. Its zone of influence spans 40,929.4 ha, impacting nearby villages such as Kodiyakadu and Muthupettai. With a mostly permanent water regime, an average depth of 2.5 m, euhaline salinity, and mesotrophic nutrient levels

ECOSYSTEM SERVICES

The Point Calimere Wetland provides vital ecosystem services, including communal fishing, medicinal plants, and aquaculture. Mangroves buffer against floods and storms, and the area holds cultural and religious significance due to nearby temples. Additionally, it supports the life cycle of fish and amphibians and serves as a critical site for migratory water birds.

ZONE OF INFLUENCE MAP



HEALTH ASSESSMENT AND INDICATORS OF POINT CALIMERE WILDLIFE AND BIRDS SANCTUARY

S.No	Feature	Indicator	Desired Value	Actual Value	Category
1	Area	% Wetland converted to non-wetland use since 2000	0%	0%	A
2	Hydrology and Catchment	Ratio of number of natural inlets chocked and diverted to total number of natural inlets	0-0.2	0	A
		Ratio of number of natural outlets chocked and diverted to total number of natural outlets	0-0.2	0	A
		Biological Oxygen Demand (3 water samples)	3-6 mg/l	Less than 20% sample meet the criteria	E
3	Biodiversity	% wetland area covered by invasive macrophytes	<10%	11-20%	B
		Annual waterbird count as a proportion of average count of last 5 years	Increasing	0.6-0.7	B
4	Governance	Clearly demarcated wetlands map	Wetlands map prepared and updated by SWA	Wetlands map prepared and updated by SWA	A
		Wetland Management Plan	Management plan prepared and approved by SWA	Management plan prepared and approved by SWA	A
		Wetlands notification	Wetland is notified under WPA	No regulation	E
				Health Score	C+

Date of Entry : 18/10/2024

WETLAND HEALTH

Wetlands in this category have fair ecological health, with no significant conversion to non-wetland uses and mostly intact hydrology. However, they face issues like poor water quality (low BOD compliance), moderate invasive species coverage, and declining biodiversity indicators. Governance is weak, with many wetlands lacking management plans, updated maps, or legal notification, highlighting the need for stronger conservation measures.





THREATS

Point Calimere Wetland is threatened by the spread of invasive species, which disturb the native ecosystem, reduce biodiversity, and destabilize the wetland's ecological balance.



25 AGAYAGANGAI WETLAND

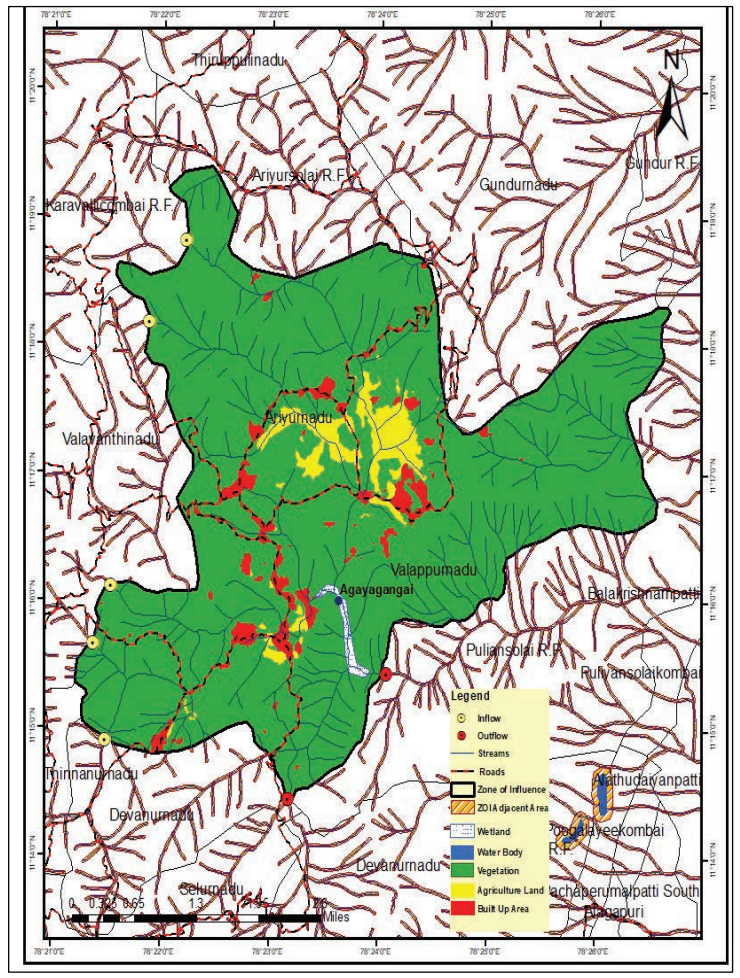
OVERVIEW AND LOCATION

Agayagangai Wetland, also known as Peraruvi, is located in Namakkal, Tamil Nadu, spanning an area of 21.7 ha at an elevation of 830 m above mean sea level. The wetland lies at geographical coordinates 11°16’00.6” N latitude and 78°23’38.2” E longitude. Formed by the Aiyaru River, it is a vital water source, with the Vaasalore Patti Eri being its primary feeder. Falling under the jurisdiction of the Tamil Nadu Forest Department, its zone of influence extends across 4,323.06 ha, impacting villages like Puliyansolai, Solakkadu, and Gundur Nadu.

ECOSYSTEM SERVICES

Agayagangai Wetland provides drinking and agricultural water, supports medicinal plants, and recharges groundwater. It acts as a sediment sink, hosts migratory birds, and attracts tourists as a recreational hotspot near a waterfall. The wetland also holds cultural significance with a nearby temple.

ZONE OF INFLUENCE MAP



HEALTH ASSESSMENT AND INDICATORS OF AGAYAGANGAI WETLAND

S.No	Feature	Indicator	Desired Value	Actual Value	Category
1	Area	% Wetland converted to non-wetland use since 2000	0%	0%	A
2	Hydrology and Catchment	Ratio of number of natural inlets chocked and diverted to total number of natural inlets	0-0.2	0	A
		Ratio of number of natural outlets chocked and diverted to total number of natural outlets	0-0.2	0	A
		Biological Oxygen Demand (3 water samples)	3-6 mg/l	Less than 20% sample meet the criteria	E
3	Biodiversity	% wetland area covered by invasive macrophytes	<10%	<10%	A
		Annual waterbird count as a proportion of average count of last 5 years	Increasing	0.6-0.7	B
4	Governance	Clearly demarcated wetlands map	Wetlands map prepared and updated by SWA	Wetland map prepared but not placed under SWA	C
		Wetland Management Plan	Management plan prepared and approved by SWA	No Management plan	E
		Wetlands notification	Wetland is notified under WPA	No regulation	E
				Health Score	D

Date of Entry : 18/10/2024

WETLAND HEALTH

Wetlands in this category face severe ecological challenges, including significant conversion to non-wetland uses, poor water quality (low BOD compliance), high invasive species coverage, and declining biodiversity. Governance is largely absent, with no management plans, updated maps, or legal notification. Immediate and comprehensive conservation interventions are required to restore these wetlands.



THREATS

The main threat to Agayagangai Wetland is the spread of invasive species, which disrupts the native ecosystem and biodiversity. These species out compete local flora and fauna, leading to ecological imbalance.



26 MANAMALKUDI TALIK GRAMA KODIYAKARAI WETLAND

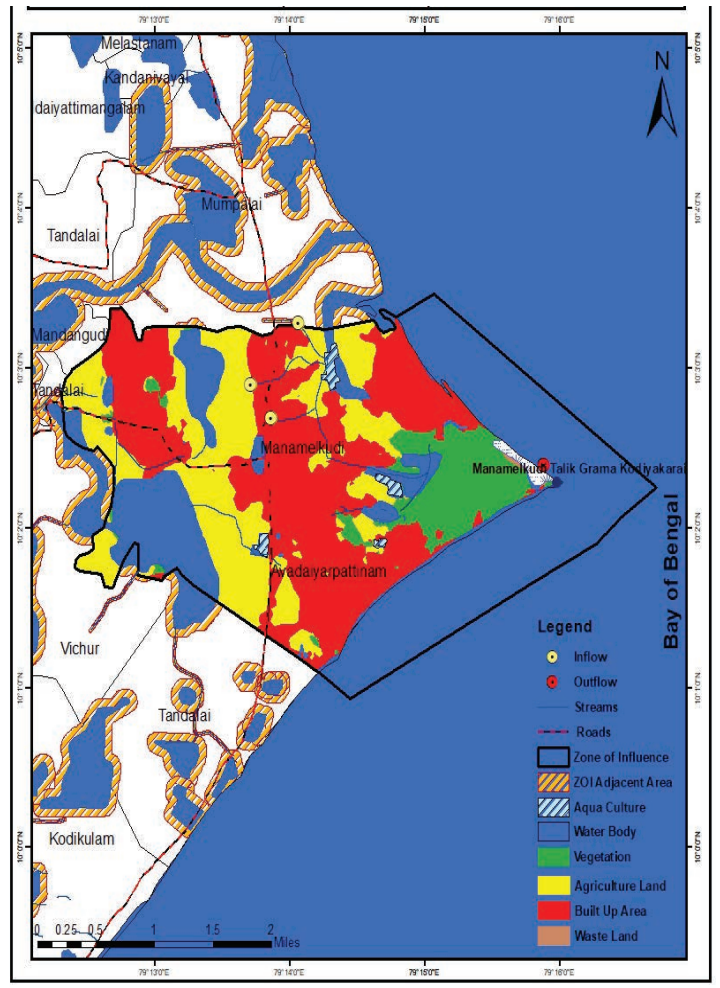
OVERVIEW AND LOCATION

Manamalkudi Talik Grama Kodiyakarai Wetland, located in Pudukkottai, Tamil Nadu, spans 16.47 ha at the geographical coordinates of 10°2'17.034" N latitude and 79°15'58.6044" E longitude. Managed by the Tamil Nadu Forest Department, this coastal wetland features mangroves and hypersaline water. It receives water from rainfall, catchment runoff, and backwaters of the Bay of Bengal, with an average depth of 0.5 m and maximum depth of 3 m. The zone of influence extends over 4,906.31 ha with a radius of approximately 3.9 km, impacting nearby villages like Avadaiyarpattinam, Manamelkudi, and Kodikulam

ECOSYSTEM SERVICES

The Manamalkudi Talik Grama Kodiyakarai Wetland supports fisheries, medicinal plants, and mangroves, which buffer floods, sequester carbon, and sustain biodiversity. It holds cultural significance with nearby temples and cremation sites and attracts migratory water birds.

ZONE OF INFLUENCE MAP



HEALTH ASSESSMENT AND INDICATORS OF MANAMALKUDI TALIK GRAMA KODIYAKARAI WETLAND

S.No	Feature	Indicator	Desired Value	Actual Value	Category
1	Area	% Wetland converted to non-wetland use since 2000	0%	0%	A
2	Hydrology and Catchment	Ratio of number of natural inlets chocked and diverted to total number of natural inlets	0-0.2	0	A
		Ratio of number of natural outlets chocked and diverted to total number of natural outlets	0-0.2	0	A
		Biological Oxygen Demand (3 water samples)	3-6 mg/l	Less than 20% sample meet the criteria	E
3	Biodiversity	% wetland area covered by invasive macrophytes	<10%	<10%	A
		Annual waterbird count as a proportion of average count of last 5 years	Increasing	0.6-0.7	B
4	Governance	Clearly demarcated wetlands map	Wetlands map prepared and updated by SWA	Wetland map prepared but not placed under SWA	C
		Wetland Management Plan	Management plan prepared and approved by SWA	No Management plan	E
		Wetlands notification	Wetland is notified under WPA	No regulation	E
				Health Score	D

Date of Entry : 18/10/2024

WETLAND HEALTH

Wetlands in this category face severe ecological challenges, including significant conversion to non-wetland uses, poor water quality (low BOD compliance), high invasive species coverage, and declining biodiversity. Governance is largely absent, with no management plans, updated maps, or legal notification. Immediate and comprehensive conservation interventions are required to restore these wetlands.





THREATS

The Manamalkudi Talik Grama Kodiyakarai Wetland faces threats from pollution, primarily due to religious practices leading to increased cloth waste, and the spread of invasive species, which is a potential issue that impacts the ecosystem.



27 PAMBAR ESTUARY

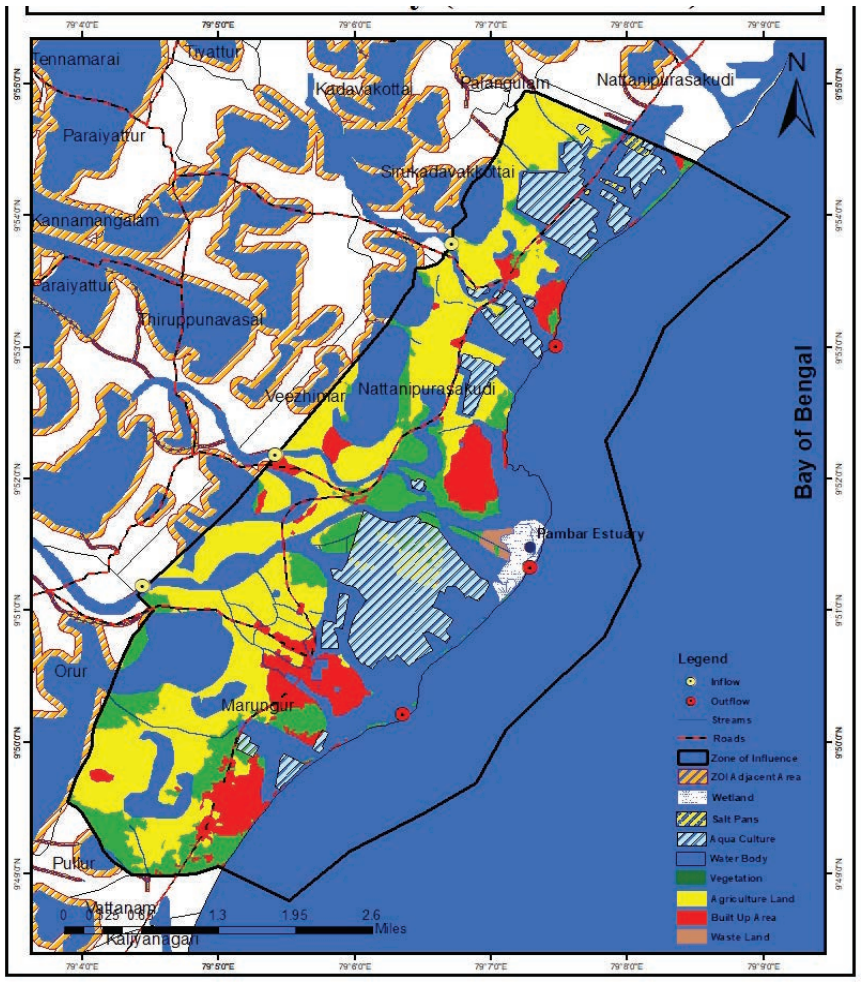
OVERVIEW AND LOCATION

The Pambar Estuary, located in Pudukkottai district, Tamil Nadu, spans an area of 40.75 hectares and is situated at geographical coordinates 9˚51’28.832” N latitude and 78˚07’17.5692” E longitude. This coastal estuary is influenced by the Bay of Bengal and nearby catchment runoff, with mangroves enhancing its ecological value. The estuary falls under the jurisdiction of the Tamil Nadu Forest Department and has a zone of influence covering 4,906.31 hectares, primarily consisting of waterbodies, agriculture, and aquaculture.

ECOSYSTEM SERVICES

The Pambar Estuary supports communal fishing and aquaculture, contributing to local livelihoods. Mangroves act as natural buffers, mitigating the impact of floods and storms while also sequestering carbon. The site is a vital habitat for migratory water birds and provides medicinal plants. Additionally, it plays a significant role in groundwater recharge, water purification, and sediment trapping, highlighting its ecological importance.

ZONE OF INFLUENCE MAP



HEALTH ASSESSMENT AND INDICATORS OF PAMBAR ESTUARY

S.No	Feature	Indicator	Desired Value	Actual Value	Category
1	Area	% Wetland converted to non-wetland use since 2000	0%	0%	A
2	Hydrology and Catchment	Ratio of number of natural inlets chocked and diverted to total number of natural inlets	0-0.2	0	A
		Ratio of number of natural outlets chocked and diverted to total number of natural outlets	0-0.2	0	A
		Biological Oxygen Demand (3 water samples)	3-6 mg/l	Less than 20% sample meet the criteria	E
3	Biodiversity	% wetland area covered by invasive macrophytes	<10%	<10%	A
		Annual waterbird count as a proportion of average count of last 5 years	Increasing	0.5-0.6	C
4	Governance	Clearly demarcated wetlands map	Wetlands map prepared and updated by SWA	Wetland map prepared but not placed under SWA	C
		Wetland Management Plan	Management plan prepared and approved by SWA	No Management plan	E
		Wetlands notification	Wetland is notified under WPA	No regulation	E
				Health Score	D

Date of Entry : 18/10/2024

WETLAND HEALTH

Wetlands in this category face severe ecological challenges, including significant conversion to non-wetland uses, poor water quality (low BOD compliance), high invasive species coverage, and declining biodiversity. Governance is largely absent, with no management plans, updated maps, or legal notification. Immediate and comprehensive conservation interventions are required to restore these wetlands.



THREATS

The Pambar Estuary faces several present threats, including changes in water inflow and outflow, pollution, unsustainable harvesting of biological resources, and siltation. Other challenges involve encroachment and the spread of invasive species, as well as disruption caused by Ghost nuts. These threats underline the need for effective conservation measures.



28 GANDHINAGAR WETLAND

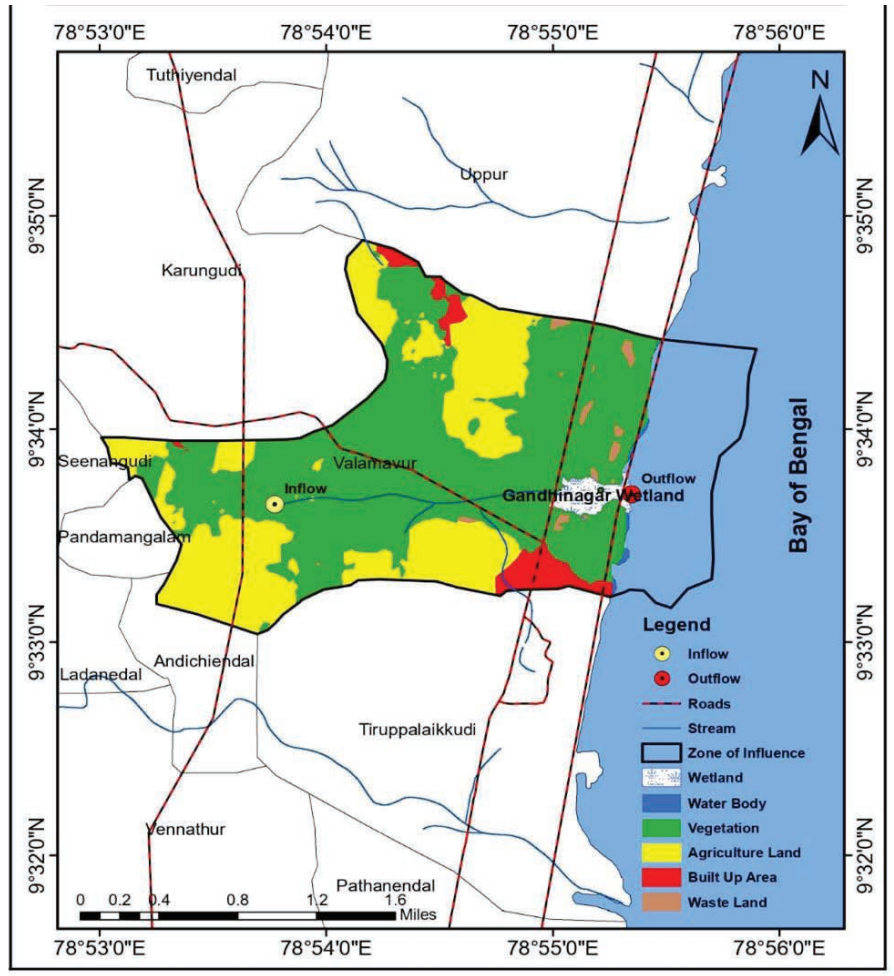
OVERVIEW AND LOCATION

Gandhinagar Wetland is located in the Ramanathapuram district of Tamil Nadu. It encompasses several villages, including Thirupalakudi, Tiruvadanai, Mariyur, Kadaladi, Meenangudi, Uchinatham, Melakidaram, and Sayalgudi. The wetland covers an area of 14.84 hectares and is situated at geographical coordinates 9˚33’42.6528” N latitude and 78˚55’12.8064” E longitude. The Forest Department is the authority overseeing this wetland.

ECOSYSTEM SERVICES

Gandhinagar Wetland provides significant cultural and religious value. It is also a site for a high congregation of migratory water birds and plays a role in carbon sequestration. The wetland supports buffalo wallowing and is used by domesticated animals. Additionally, mangrove plantations contribute to carbon sequestration.

ZONE OF INFLUENCE MAP



HEALTH ASSESSMENT AND INDICATORS OF GANDHINAGAR WETLAND

S.No	Feature	Indicator	Desired Value	Actual Value	Category
1	Area	% Wetland converted to non-wetland use since 2000	0%	More than 20%	E
2	Hydrology and Catchment	Ratio of number of natural inlets chocked and diverted to total number of natural inlets	0-0.2	0	A
		Ratio of number of natural outlets chocked and diverted to total number of natural outlets	0-0.2	0	A
		Biological Oxygen Demand (3 water samples)	3-6 mg/l	80-100% sample meet the criteria	A
3	Biodiversity	% wetland area covered by invasive macrophytes	<10%	<10%	A
		Annual waterbird count as a proportion of average count of last 5 years	Increasing	0.5-0.6	C
4	Governance	Clearly demarcated wetlands map	Wetlands map prepared and updated by SWA	Wetland map prepared but not placed under SWA	C
		Wetland Management Plan	Management plan prepared and approved by SWA	No Management plan	E
		Wetlands notification	Wetland is notified under WPA	No regulation	E
				Health Score	D

Date of Entry : 18/10/2024

WETLAND HEALTH

Wetlands in this category face severe ecological challenges, including significant conversion to non-wetland uses, poor water quality (low BOD compliance), high invasive species coverage, and declining biodiversity. Governance is largely absent, with no management plans, updated maps, or legal notification. Immediate and comprehensive conservation interventions are required to restore these wetlands.





THREATS

Gandhinagar Wetland faces the threat of encroachment, though the extent of this threat is considered low. The spread of invasive species is also present, but similarly, it is regarded as a low-level threat.



29 KADALOOR WETLAND

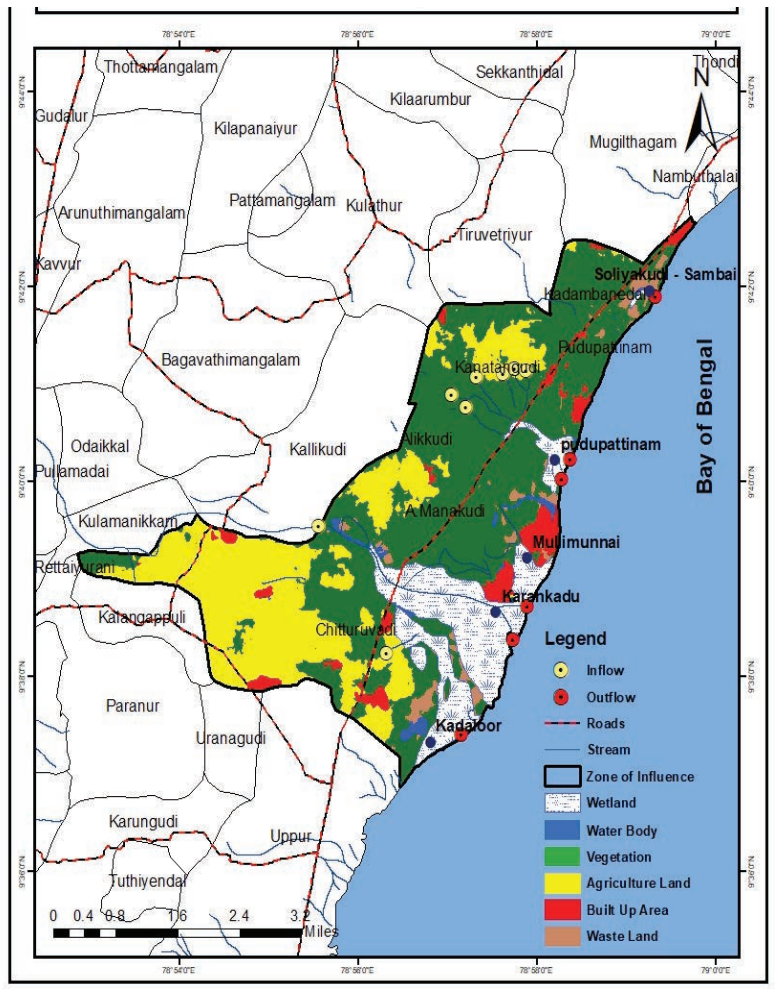
OVERVIEW AND LOCATION

Kadaloor Wetland is located in the Ramanathapuram district of Tamil Nadu. It spans across several villages, including Uppur, Tiruvadanai, Kadaloor, Kottaiyur, Pudur, Thiruvadanai, Perungulam, and Alangulam. The wetland covers an area of 163.6 hectares and is situated at geographical coordinates 9˚37'19.74" N latitude and 78˚56'48.6384" E longitude. The Forest Department holds jurisdiction over this wetland.

ECOSYSTEM SERVICES

Kadaloor Wetland supports the life cycle of fish and amphibians and serves as a site for the high congregation of migratory water birds. It also plays a role in fisheries and provides medicinal plants.

ZONE OF INFLUENCE MAP



HEALTH ASSESSMENT AND INDICATORS OF KADALOOR WETLAND

S.No	Feature	Indicator	Desired Value	Actual Value	Category
1	Area	% Wetland converted to non-wetland use since 2000	0%	0%	A
2	Hydrology and Catchment	Ratio of number of natural inlets chocked and diverted to total number of natural inlets	0-0.2	0	A
		Ratio of number of natural outlets chocked and diverted to total number of natural outlets	0-0.2	0	A
		Biological Oxygen Demand (3 water samples)	3-6 mg/l	60-80% sample meet the criteria	B
3	Biodiversity	% wetland area covered by invasive macrophytes	<10%	<10%	A
		Annual waterbird count as a proportion of average count of last 5 years	Increasing	0.5-0.6	C
4	Governance	Clearly demarcated wetlands map	Wetlands map prepared and updated by SWA	Wetland map prepared but not placed under SWA	C
		Wetland Management Plan	Management plan prepared and approved by SWA	No Management plan	E
		Wetlands notification	Wetland is notified under WPA	No regulation	E
				Health Score	C

Date of Entry : 18/10/2024

WETLAND HEALTH

Wetlands in this range show poor ecological health, with some conversion to non-wetland uses, declining waterbird counts, and significant issues with water quality (low BOD compliance). Invasive species coverage is moderate to high, and governance is weak, with most wetlands lacking management plans, updated maps, or legal notification. Urgent conservation efforts are needed to address these challenges.





THREATS

Kadaloor Wetland faces the spread of invasive species, which poses a threat to the ecosystem.



30 KANNAMUNNAI WETLAND

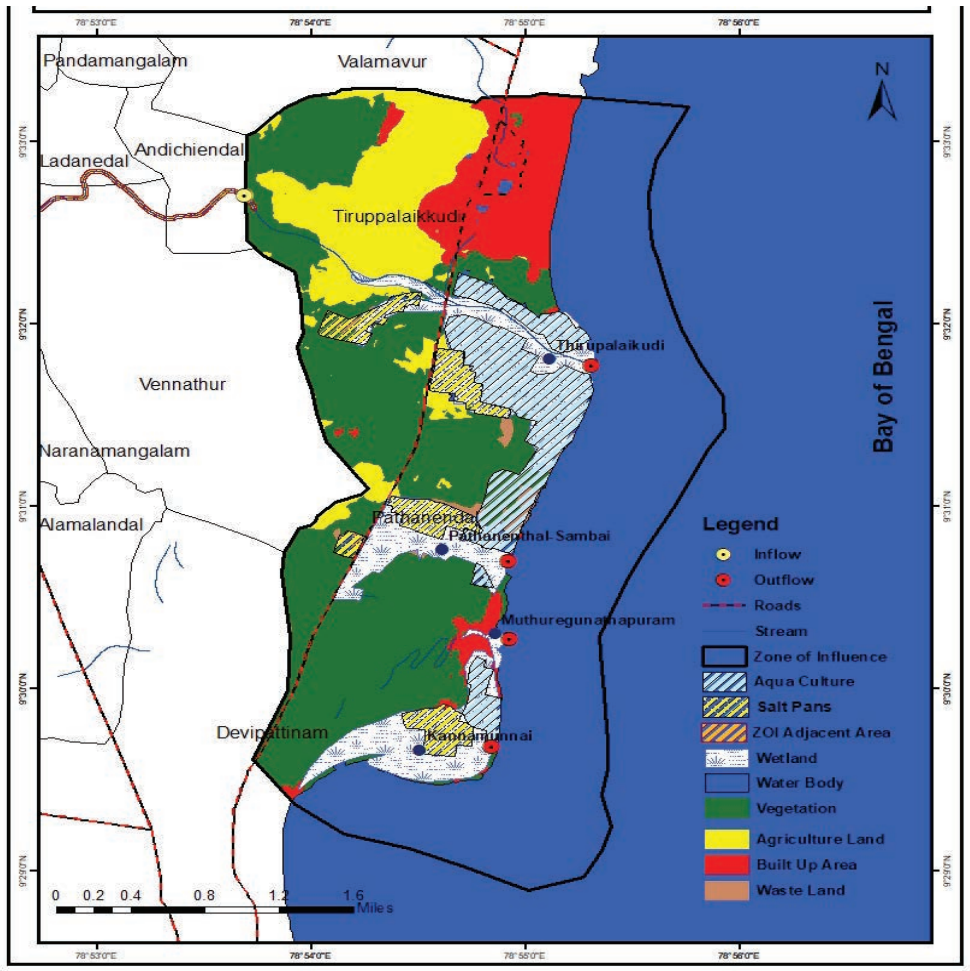
OVERVIEW AND LOCATION

Kannamunnai Wetland is located in the Ramanathapuram district of Tamil Nadu, covering several villages, including Pattanendal, Vennathur panchayat, Kannamunnai, Alangulam, Sembadikottai, and Kottaiyur. The wetland spans an area of 72.1 hectares and is situated at geographical coordinates 9°29'39.9984" N latitude and 78°54'30.3444" E longitude. The Forest Department oversees the wetland.

ECOSYSTEM SERVICES

Kannamunnai Wetland provides several ecosystem services, including supporting fisheries and the life cycle of fish and amphibians. It serves as a site for the high congregation of migratory water birds and features aquaculture plants and saltpans. The wetland also supports mangrove growth, medicinal plants, and helps buffer communities from extreme events like floods and storms. Additionally, it holds significant cultural and religious value.

ZONE OF INFLUENCE MAP



HEALTH ASSESSMENT AND INDICATORS OF KANNAMUNNAI WETLAND

S.No	Feature	Indicator	Desired Value	Actual Value	Category
1	Area	% Wetland converted to non-wetland use since 2000	0%	0%	A
2	Hydrology and Catchment	Ratio of number of natural inlets chocked and diverted to total number of natural inlets	0-0.2	0	A
		Ratio of number of natural outlets chocked and diverted to total number of natural outlets	0-0.2	0	A
		Biological Oxygen Demand (3 water samples)	3-6 mg/l	Less than 20% sample meet the criteria	E
3	Biodiversity	% wetland area covered by invasive macrophytes	<10%	<10%	A
		Annual waterbird count as a proportion of average count of last 5 years	Increasing	0.5-0.6	C
4	Governance	Clearly demarcated wetlands map	Wetlands map prepared and updated by SWA	Wetland map prepared but not placed under SWA	C
		Wetland Management Plan	Management plan prepared and approved by SWA	No Management plan	E
		Wetlands notification	Wetland is notified under WPA	No regulation	E
				Health Score	D

Date of Entry : 18/10/2024

WETLAND HEALTH

Wetlands in this category face severe ecological challenges, including significant conversion to non-wetland uses, poor water quality (low BOD compliance), high invasive species coverage, and declining biodiversity. Governance is largely absent, with no management plans, updated maps, or legal notification. Immediate and comprehensive conservation interventions are required to restore these wetlands.



THREATS

Kannamunnai Wetland faces the spread of invasive species, which threatens the ecosystem. Additionally, there is disruption caused by Ghost nuts, which further impacts the wetland's balance.

31 MOORPANNAI WETLAND

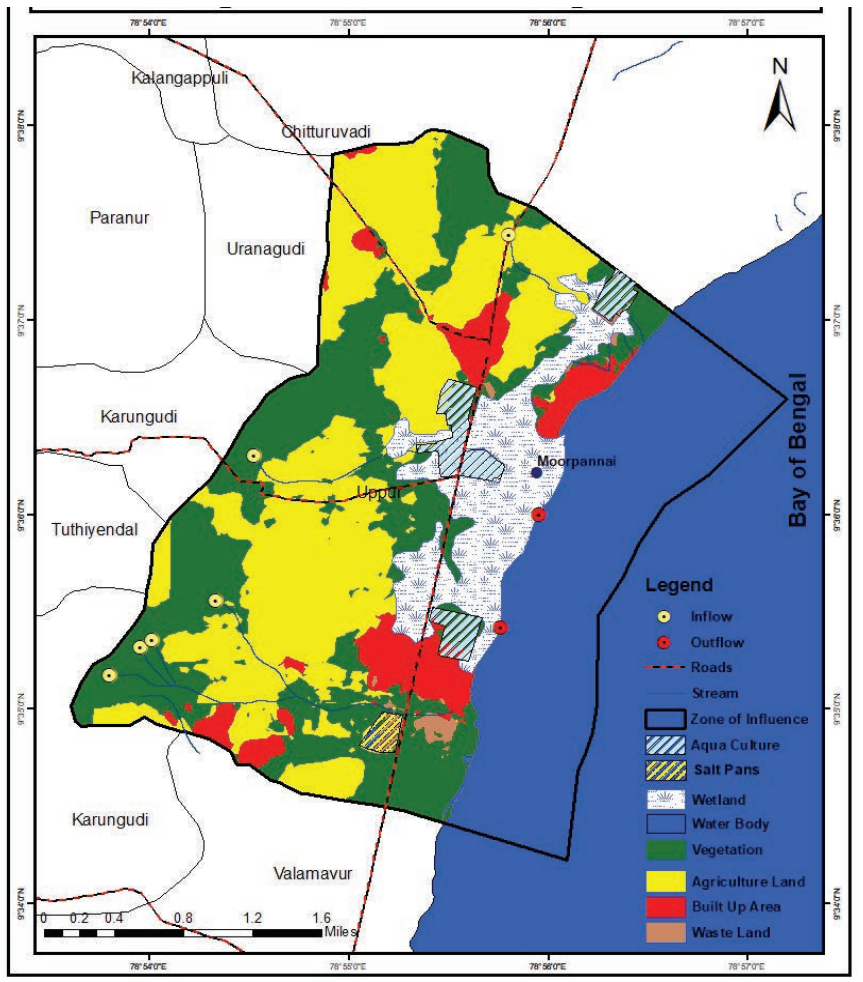
OVERVIEW AND LOCATION

Moorpannai Wetland is located in the Ramanathapuram district of Tamil Nadu, covering the villages of Uppur, Tiruvadanai, and Kavanoor. The wetland spans an area of 252.81 hectares and is situated at geographical coordinates 9°36'13.0068" N latitude and 78°55'56.5608" E longitude. The Forest Department holds jurisdiction over this wetland.

ECOSYSTEM SERVICES

Moorpannai Wetland supports fisheries and medicinal plants, playing a crucial role in buffering communities from extreme events such as floods and storms, similar to the function of mangroves. It serves as a site for the high congregation of migratory water birds and supports the life cycle of fish and amphibians. The wetland also features saltpans and is home to mangroves, which are essential for carbon sequestration. Additionally, aquaculture and mining activities are observed in the area.

ZONE OF INFLUENCE MAP



HEALTH ASSESSMENT AND INDICATORS OF MOORPANNAI WETLAND

S.No	Feature	Indicator	Desired Value	Actual Value	Category
1	Area	% Wetland converted to non-wetland use since 2000	0%	0%	A
2	Hydrology and Catchment	Ratio of number of natural inlets chocked and diverted to total number of natural inlets	0-0.2	0	A
		Ratio of number of natural outlets chocked and diverted to total number of natural outlets	0-0.2	0	A
		Biological Oxygen Demand (3 water samples)	3-6 mg/l	80-100% sample meet the criteria	A
3	Biodiversity	% wetland area covered by invasive macrophytes	<10%	<10%	A
		Annual waterbird count as a proportion of average count of last 5 years	Increasing	0.5-0.6	C
4	Governance	Clearly demarcated wetlands map	Wetlands map prepared and updated by SWA	Wetland map prepared but not placed under SWA	C
		Wetland Management Plan	Management plan prepared and approved by SWA	No Management plan	E
		Wetlands notification	Wetland is notified under WPA	No regulation	E
				Health Score	C

Date of Entry : 18/10/2024

WETLAND HEALTH

Wetlands in this range show poor ecological health, with some conversion to non-wetland uses, declining waterbird counts, and significant issues with water quality (low BOD compliance). Invasive species coverage is moderate to high, and governance is weak, with most wetlands lacking management plans, updated maps, or legal notification. Urgent conservation efforts are needed to address these challenges.



THREATS

Moorpannai Wetland is facing threats from the spread of invasive species, which could potentially disrupt the balance of the local ecosystem. Additionally, there is significant disruption caused by Ghost nuts, an invasive species that affects the wetland's ecological functions. These threats, if left unchecked, could lead to a reduction in biodiversity and harm the wetland's role in supporting various species and ecosystem services.



32 MULLIMUNNAI WETLAND

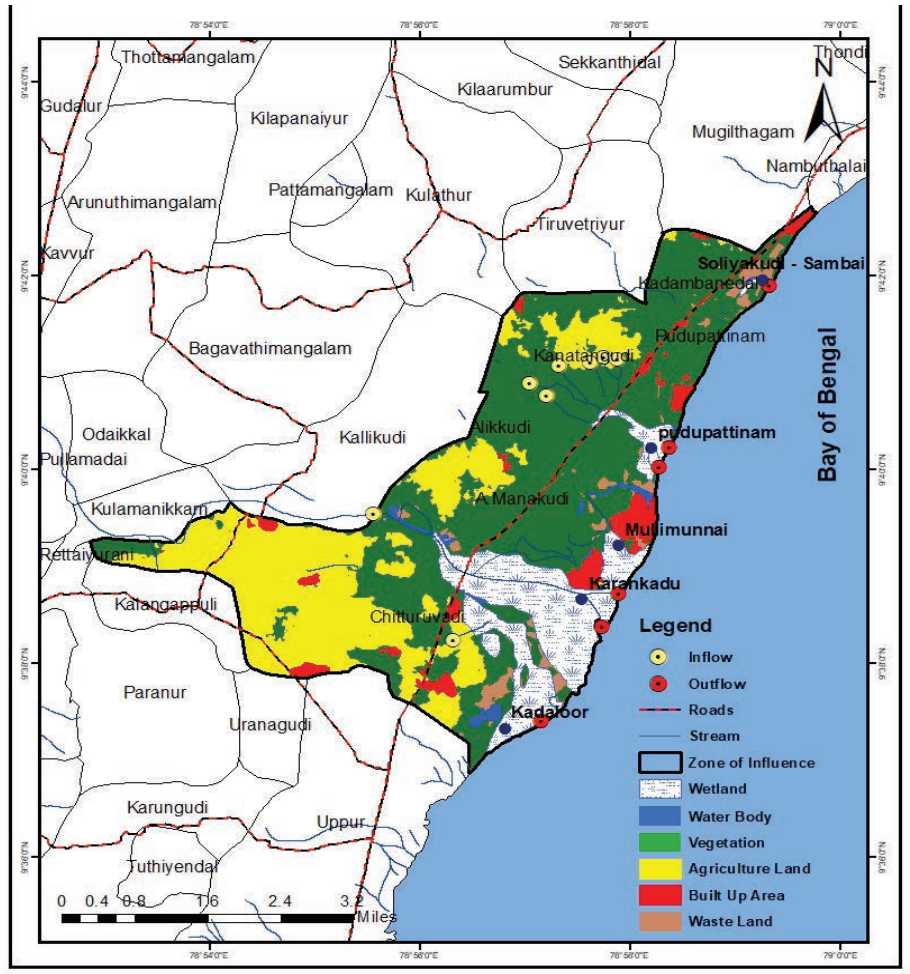
OVERVIEW AND LOCATION

Mullimunnai Wetland is located in the Ramanathapuram district of Tamil Nadu, covering the villages of Pudhupattinam, Tiruvadanai, and Karankadu. The wetland spans an area of 54.65 hectares and is situated at geographical coordinates 9°39'12.9672" N latitude and 78°57'53.5104" E longitude. The Forest Department holds jurisdiction over this wetland.

ECOSYSTEM SERVICES

Mullimunnai Wetland supports local livelihoods through fisheries and holds cultural and religious significance for the surrounding communities. It is home to a variety of medicinal plants, contributing to both ecological and cultural value. The wetland serves as an important habitat for migratory water birds and supports the life cycles of fish and amphibians, making it vital for local biodiversity. Mining activities have been observed in the area, along with the presence of aquaculture plants during ground-truthing. Furthermore, the wetland's mangroves play a crucial role in carbon sequestration, enhancing its climate regulation functions.

ZONE OF INFLUENCE MAP



HEALTH ASSESSMENT AND INDICATORS OF MULLIMUNNAI WETLAND

S.No	Feature	Indicator	Desired Value	Actual Value	Category
1	Area	% Wetland converted to non-wetland use since 2000	0%	More than 20%	E
2	Hydrology and Catchment	Ratio of number of natural inlets chocked and diverted to total number of natural inlets	0-0.2	0	A
		Ratio of number of natural outlets chocked and diverted to total number of natural outlets	0-0.2	0	A
		Biological Oxygen Demand (3 water samples)	3-6 mg/l	Less than 20% sample meet the criteria	E
3	Biodiversity	% wetland area covered by invasive macrophytes	<10%	<10%	A
		Annual waterbird count as a proportion of average count of last 5 years	Increasing	0.5-0.6	C
4	Governance	Clearly demarcated wetlands map	Wetlands map prepared and updated by SWA	Wetland map prepared but not placed under SWA	C
		Wetland Management Plan	Management plan prepared and approved by SWA	No Management plan	D
		Wetlands notification	Wetland is notified under WPA	No regulation	E
				Health Score	E

Date of Entry : 18/10/2024

Date of Entry : 18/10/2024

WETLAND HEALTH

Wetlands in this range are in critical condition, with extensive conversion to non-wetland uses, very poor water quality (low BOD compliance), high invasive species coverage, and severely declining biodiversity. Governance is almost non-existent, with no management plans, updated maps, or legal notification. These wetlands require urgent and large-scale restoration efforts to prevent further degradation.



THREATS

The Mullimunnai Wetland faces threats from the spread of invasive species, which can disrupt the local ecosystem. Effluent discharge from aquaculture ponds poses another significant risk, potentially degrading water quality and affecting the wetland's biodiversity. Additionally, mining activities in the region are a concern, as they may lead to habitat disruption and environmental degradation.



33 PATHANENTHAL SAMBAI

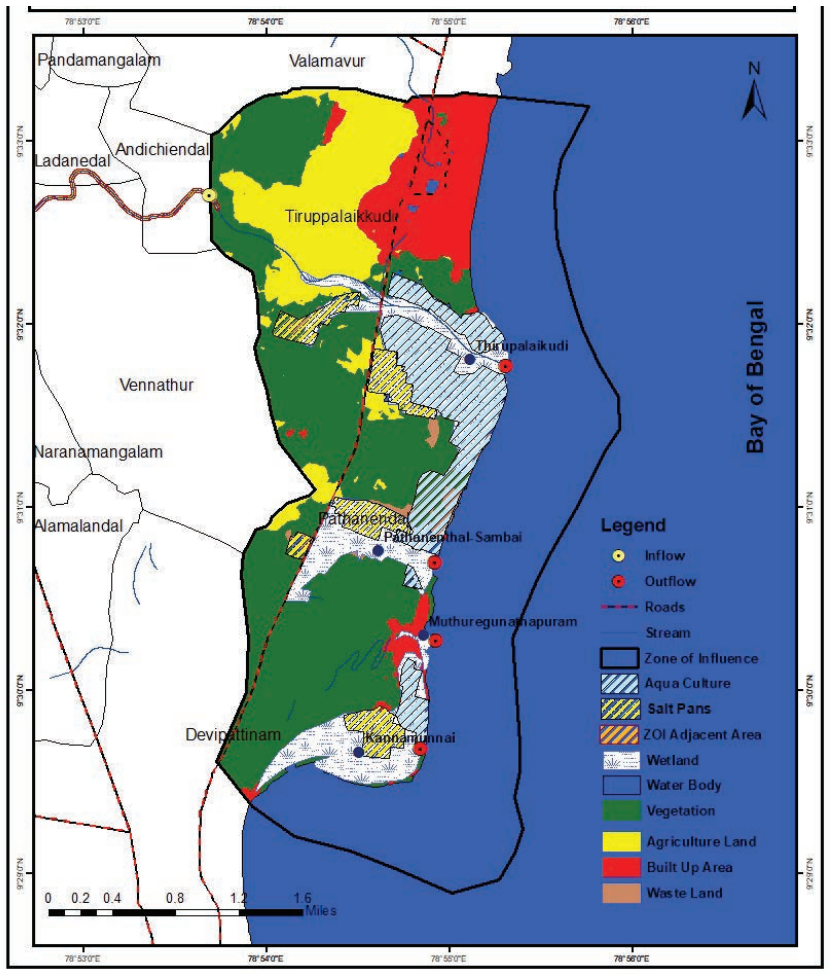
OVERVIEW AND LOCATION

Pathanenthal Sambai is a wetland located in the Ramanathapuram district of Tamil Nadu. The wetland covers an area of 71.63 ha and is situated at geographical coordinates 9˚30’45.9756” N and 78˚54’36.684” E. It is under the jurisdiction of the Forest Department and is primarily influenced by the surrounding village areas, such as Pattanendal and Vennathur. The wetland plays an important role in the local ecology and supports various community activities.

ECOSYSTEM SERVICES

Pathanenthal Sambai Wetland provides a range of vital ecosystem services. It supports fisheries, contributing to local livelihoods. The wetland is home to medicinal plants, offering potential for traditional healing practices. It holds significant cultural and religious value for local communities, further enhancing its ecological importance. The wetland is a critical site for the congregation of migratory water birds, supporting various bird species. Aquaculture activities have been observed, contributing to local economies. The presence of mangroves is vital for carbon sequestration, enhancing the wetland’s role in mitigating climate change. Additionally, saltpan activities are carried out within the area, which plays a role in the local economy.

ZONE OF INFLUENCE MAP



HEALTH ASSESSMENT AND INDICATORS OF PATHANENTHAL SAMBAI

S.No	Feature	Indicator	Desired Value	Actual Value	Category
1	Area	% Wetland converted to non-wetland use since 2000	0%	0%	A
2	Hydrology and Catchment	Ratio of number of natural inlets chocked and diverted to total number of natural inlets	0-0.2	0	A
		Ratio of number of natural outlets chocked and diverted to total number of natural outlets	0-0.2	0	A
		Biological Oxygen Demand (3 water samples)	3-6 mg/l	80-100% sample meet the criteria	A
3	Biodiversity	% wetland area covered by invasive macrophytes	<10%	<10%	A
		Annual waterbird count as a proportion of average count of last 5 years	Increasing	0.5-0.6	C
4	Governance	Clearly demarcated wetlands map	Wetlands map prepared and updated by SWA	Wetland map prepared but not placed under SWA	C
		Wetland Management Plan	Management plan prepared and approved by SWA	Wetland map not prepared	E
		Wetlands notification	Wetland is notified under WPA	No regulation	E
				Health Score	C

Date of Entry : 18/10/2024

WETLAND HEALTH

Wetlands in this range show poor ecological health, with some conversion to non-wetland uses, declining waterbird counts, and significant issues with water quality (low BOD compliance). Invasive species coverage is moderate to high, and governance is weak, with most wetlands lacking management plans, updated maps, or legal notification. Urgent conservation efforts are needed to address these challenges.





THREATS

The spread of invasive species (SIS) is a significant threat to the Pathanenthal Sambai Wetland, potentially affecting native biodiversity and ecosystem stability. The presence of saltpans also poses a risk by altering water quality and habitat conditions, making conservation efforts crucial to maintain the wetland's ecological health.





34 PUTHUPATTINAM WETLAND

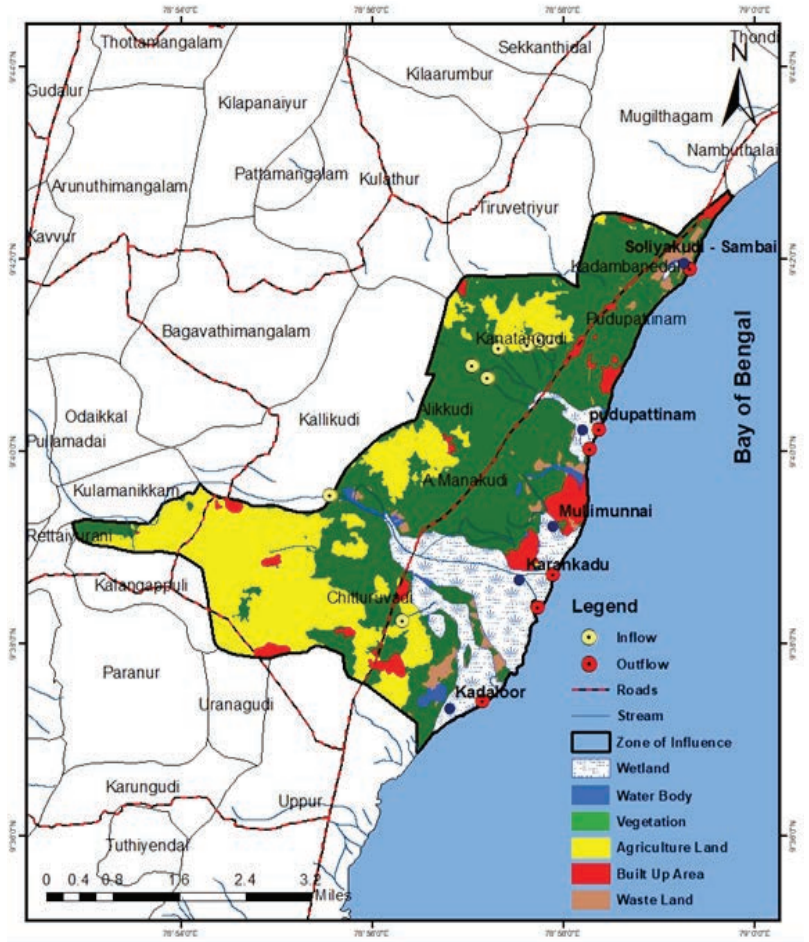
OVERVIEW AND LOCATION

Puthupattinam Wetland, located in Mayiladuthurai, Tamil Nadu, spans 41.68 ha and lies at the geographical coordinates of 11°19'33.98" N latitude and 79°49'49.19" E longitude. This coastal wetland features a mix of mangroves and waterbodies, playing a vital role in supporting local biodiversity and acting as a hydrological hub. The wetland receives water primarily from rainfall, catchment runoff, and backwaters from the Bay of Bengal. Managed by the Tamil Nadu Forest Department, its zone of influence covers an area of 2,941.03 ha, with an irregular radius of approximately 3.08 km. This zone impacts nearby villages, including Madavamedu, Thandavankulam, Thiruvalaputhur, Puthagaram, Pattavarthi, Mayiladuthurai, Anaimelagaram, and Sitharkadu.

ECOSYSTEM SERVICES

The Pudhupattinam Wetland offers essential ecosystem services, including communal fishing, medicinal plants, and aquaculture. Mangroves help buffer floods and storms while aiding carbon sequestration. It also supports fish, amphibian life cycles, and migratory water birds.

ZONE OF INFLUENCE MAP



HEALTH ASSESSMENT AND INDICATORS OF PUTHUPATTINAM WETLAND

S.No	Feature	Indicator	Desired Value	Actual Value	Category
1	Area	% Wetland converted to non-wetland use since 2000	0%	11-20%	D
2	Hydrology and Catchment	Ratio of number of natural inlets chocked and diverted to total number of natural inlets	0-0.2	0	A
		Ratio of number of natural outlets chocked and diverted to total number of natural outlets	0-0.2	0	A
		Biological Oxygen Demand (3 water samples)	3-6 mg/l	80-100% sample meet the criteria	A
3	Biodiversity	% wetland area covered by invasive macrophytes	<10%	<10%	A
		Annual waterbird count as a proportion of average count of last 5 years	Increasing	0.5-0.6	C
4	Governance	Clearly demarcated wetlands map	Wetlands map prepared and updated by SWA	Wetland map prepared but not placed under SWA	C
		Wetland Management Plan	Management plan prepared and approved by SWA	No Management plan	E
		Wetlands notification	Wetland is notified under WPA	No regulation	E
				Health Score	D

Date of Entry : 18/10/2024

WETLAND HEALTH

Wetlands in this range are in critical condition, with extensive conversion to non-wetland uses, very poor water quality (low BOD compliance), high invasive species coverage, and severely declining biodiversity. Governance is almost non-existent, with no management plans, updated maps, or legal notification. These wetlands require urgent and large-scale restoration efforts to prevent further degradation.





THREATS

Puthupattinam Wetland faces threats from the spread of invasive species, which disrupt the native ecosystem, impacting biodiversity and the ecological balance of the wetland.



35 SOLIYAKUDI-SAMBAI WETLAND

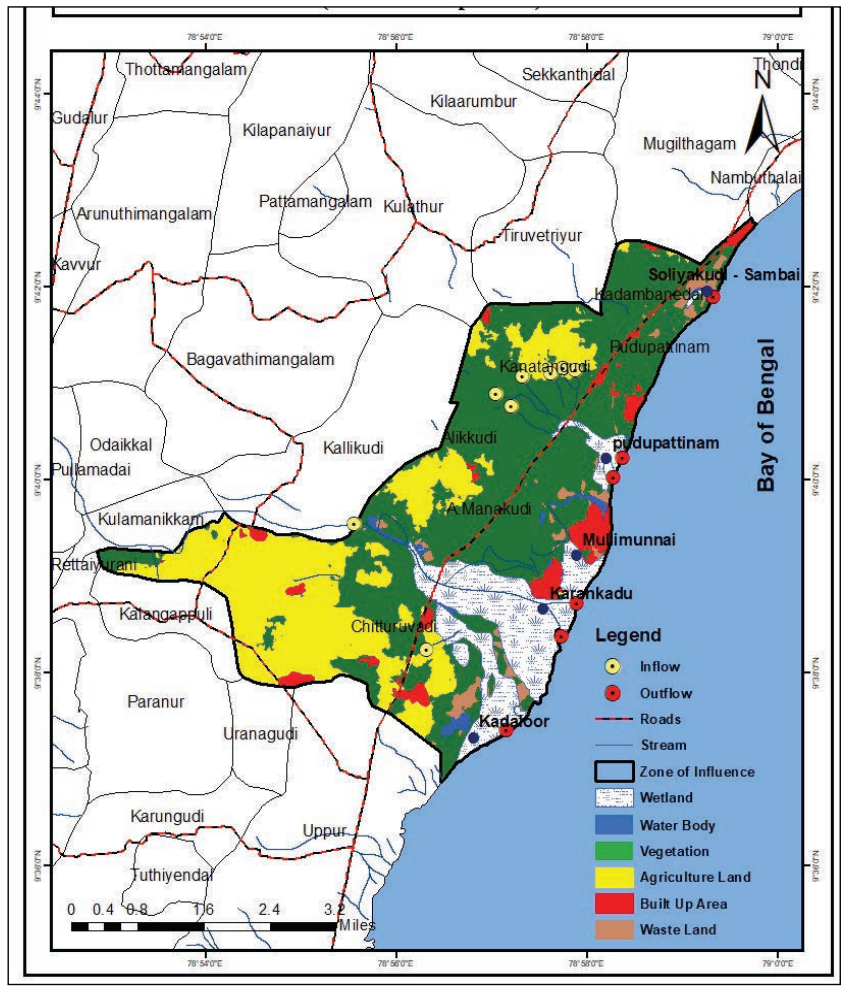
OVERVIEW AND LOCATION

The Soliyakudi-Sambai Wetland, located in the Ramanathapuram district of Tamil Nadu, spans an area of 7.5 ha. It is situated within the villages of Kanattangudi, Mugilthangam, and Tiruvadanai, with geographical coordinates of 9°41'57.5808" N and 78°59'16.1124" E. The wetland falls under the jurisdiction of the Forest Department.

ECOSYSTEM SERVICES

The Soliyakudi-Sambai Wetland provides several ecosystem services, including community fishing (often conducted without formal permits), which supports local livelihoods. Plying of boats and grazing are common activities in the area. Additionally, religious practices are significant within the community, contributing to the wetland's cultural value.

ZONE OF INFLUENCE MAP



HEALTH ASSESSMENT AND INDICATORS OF SOLIYAKUDI-SAMBAI WETLAND

S.No	Feature	Indicator	Desired Value	Actual Value	Category
1	Area	% Wetland converted to non-wetland use since 2000	0%	0%	A
2	Hydrology and Catchment	Ratio of number of natural inlets chocked and diverted to total number of natural inlets	0-0.2	0	A
		Ratio of number of natural outlets chocked and diverted to total number of natural outlets	0-0.2	0	A
		Biological Oxygen Demand (3 water samples)	3-6 mg/l	20-40% sample meet the criteria	D
3	Biodiversity	% wetland area covered by invasive macrophytes	<10%	<10%	A
		Annual waterbird count as a proportion of average count of last 5 years	Increasing	0.5-0.6	C
4	Governance	Clearly demarcated wetlands map	Wetlands map prepared and updated by SWA	Wetland map prepared but not placed under SWA	C
		Wetland Management Plan	Management plan prepared and approved by SWA	No Management plan	E
		Wetlands notification	Wetland is notified under WPA	No regulation	E
				Health Score	D

Date of Entry : 18/10/2024

WETLAND HEALTH

Wetlands in this category face severe ecological challenges, including significant conversion to non-wetland uses, poor water quality (low BOD compliance), high invasive species coverage, and declining biodiversity. Governance is largely absent, with no management plans, updated maps, or legal notification. Immediate and comprehensive conservation interventions are required to restore these wetlands.





THREATS

The wetland faces pollution due to the disposal of waste, which negatively impacts water quality. Additionally, the spread of invasive species poses a threat, disrupting the natural balance and threatening the biodiversity of the area.



36 THIRUPPALAKUDI

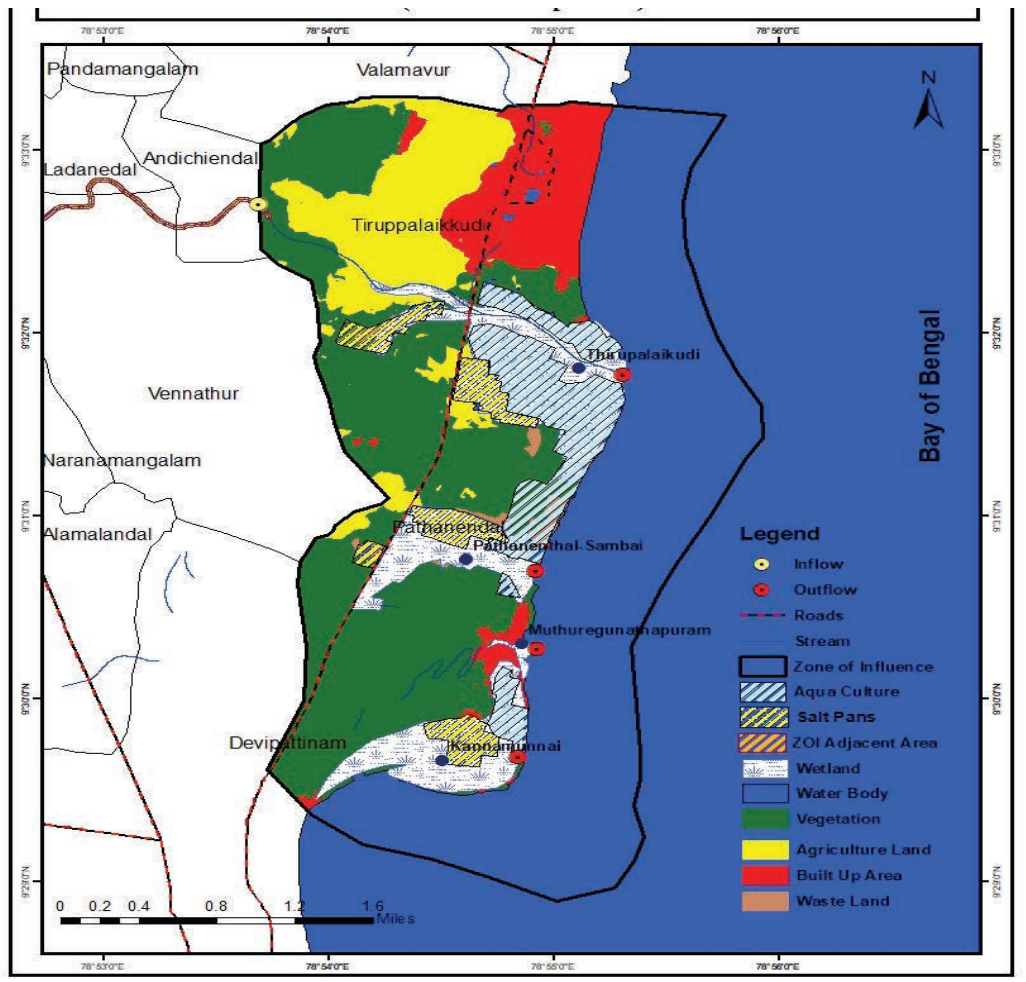
OVERVIEW AND LOCATION

Thiruppalaikudi Wetland, spanning an area of 230.6 hectares, is situated in the villages of Pattannenthal and Vennathur in Ramanathapuram district, Tamil Nadu. It covers an area of about 230.6 hectares. It falls under the jurisdiction of the Forest Department. The wetland is geographically located at latitude 9˚31’48.5256” N and longitude 78˚55’6.5244” E, making it an ecologically significant site within the region.

ECOSYSTEM SERVICES

Thiruppalakudi Wetland provides vital ecosystem services, including supporting fisheries and medicinal plants. It is a site of high congregation for migratory water birds and plays a crucial role in supporting the life cycles of fish and amphibians. The presence of mangroves enhances carbon sequestration and biodiversity. Additionally, the area supports aquaculture activities and mining, contributing to the livelihood of local communities.

ZONE OF INFLUENCE MAP



HEALTH ASSESSMENT AND INDICATORS OF THIRUPPALAKUDI

S.No	Feature	Indicator	Desired Value	Actual Value	Category
1	Area	% Wetland converted to non-wetland use since 2000	0%	0%	A
2	Hydrology and Catchment	Ratio of number of natural inlets chocked and diverted to total number of natural inlets	0-0.2	0	A
		Ratio of number of natural outlets chocked and diverted to total number of natural outlets	0-0.2	0	A
		Biological Oxygen Demand (3 water samples)	3-6 mg/l	Less than 20% sample meet the criteria	E
3	Biodiversity	% wetland area covered by invasive macrophytes	<10%	<10%	A
		Annual waterbird count as a proportion of average count of last 5 years	Increasing	0.6-0.7	B
4	Governance	Clearly demarcated wetlands map	Wetlands map prepared and updated by SWA	Wetland map prepared but not placed under SWA	C
		Wetland Management Plan	Management plan prepared and approved by SWA	No Management plan	E
		Wetlands notification	Wetland is notified under WPA	No regulation	E
				Health Score	D

Date of Entry : 18/10/2024

WETLAND HEALTH

Wetlands in this category face severe ecological challenges, including significant conversion to non-wetland uses, poor water quality (low BOD compliance), high invasive species coverage, and declining biodiversity. Governance is largely absent, with no management plans, updated maps, or legal notification. Immediate and comprehensive conservation interventions are required to restore these wetlands.





THREATS

The Thiruppalakudi Wetland faces significant threats, including the spread of invasive species that disrupt native biodiversity. Aquaculture activities contribute to habitat degradation, while siltation affects water flow and the overall health of the wetland ecosystem.



37 MUTHURENGUNATHAPURAM WETLAND

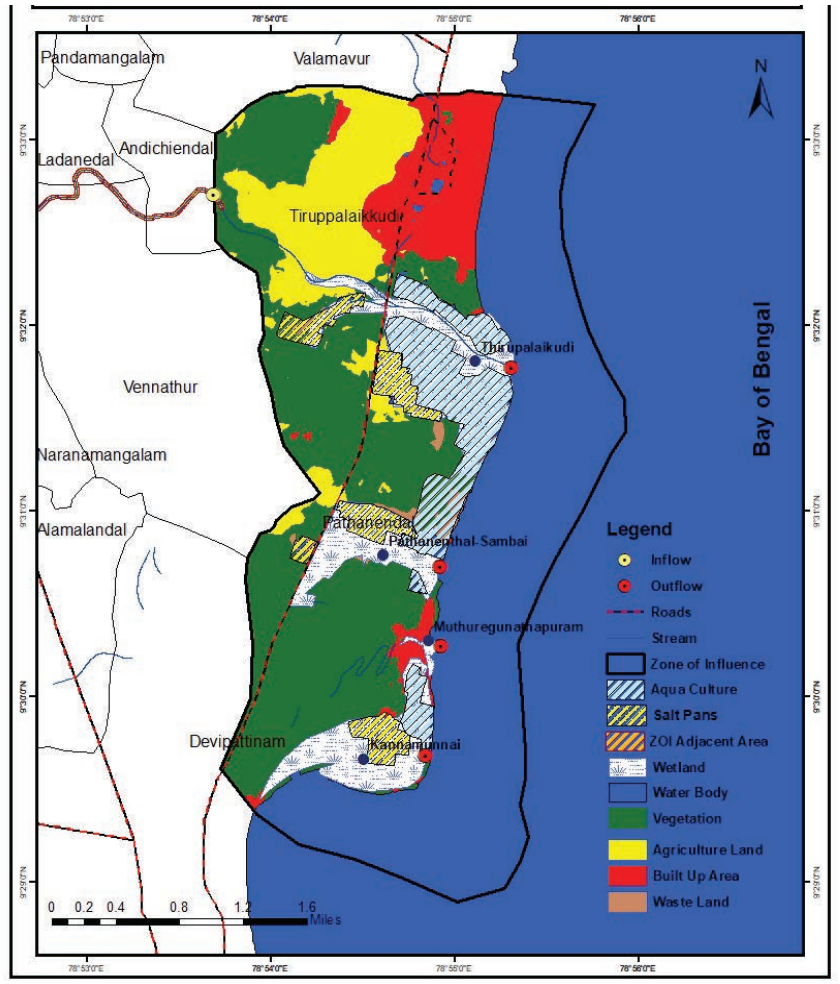
OVERVIEW AND LOCATION

The Muthurengunathapuram Wetland is located in the Ramanathapuram district of Tamil Nadu, covering an area of 23.06 hectares. The wetland is situated in the villages of Pattanendal and Vennathur. The geographical coordinates of the site are 9°30'18.2196" N latitude and 78°54'51.3648" E longitude. The Forest Department holds jurisdiction over this wetland complex.

ECOSYSTEM SERVICES

The Muthurengunathapuram Wetland provides various ecosystem services, including supporting local fisheries, medicinal plants, and holding significant cultural and religious value. It serves as a site of high congregation of migratory water birds and supports the life cycle of fish and amphibians. The wetland also plays a role in aquaculture activities and the presence of saltpans, contributing to the local economy and biodiversity.

ZONE OF INFLUENCE MAP



HEALTH ASSESSMENT AND INDICATORS OF MUTHURENGUNATHAPURAM WETLAND

S.No	Feature	Indicator	Desired Value	Actual Value	Category
1	Area	% Wetland converted to non-wetland use since 2000	0%	0%	A
2	Hydrology and Catchment	Ratio of number of natural inlets chocked and diverted to total number of natural inlets	0-0.2	0	A
		Ratio of number of natural outlets chocked and diverted to total number of natural outlets	0-0.2	0	A
		Biological Oxygen Demand (3 water samples)	3-6 mg/l	80-100% sample meet the criteria	A
3	Biodiversity	% wetland area covered by invasive macrophytes	<10%	<10%	A
		Annual waterbird count as a proportion of average count of last 5 years	Increasing	0.5-0.6	C
4	Governance	Clearly demarcated wetlands map	Wetlands map prepared and updated by SWA	Wetland map prepared but not placed under SWA	C
		Wetland Management Plan	Management plan prepared and approved by SWA	Wetland map not prepared	E
		Wetlands notification	Wetland is notified under WPA	No regulation	E
				Health Score	C

Date of Entry : 18/10/2024

WETLAND HEALTH

Wetlands in this range show poor ecological health, with some conversion to non-wetland uses, declining waterbird counts, and significant issues with water quality (low BOD compliance). Invasive species coverage is moderate to high, and governance is weak, with most wetlands lacking management plans, updated maps, or legal notification. Urgent conservation efforts are needed to address these challenges.



THREATS

The Muthurengunathapuram Wetland faces several threats, including pollution from plastic and waste dumping, which impacts water quality and wildlife. Additionally, the spread of invasive species threatens the native biodiversity, disrupting the wetland's ecological balance and function.



38 MELASELVANUR-KILASELVANUR BIRD SANCTUARY

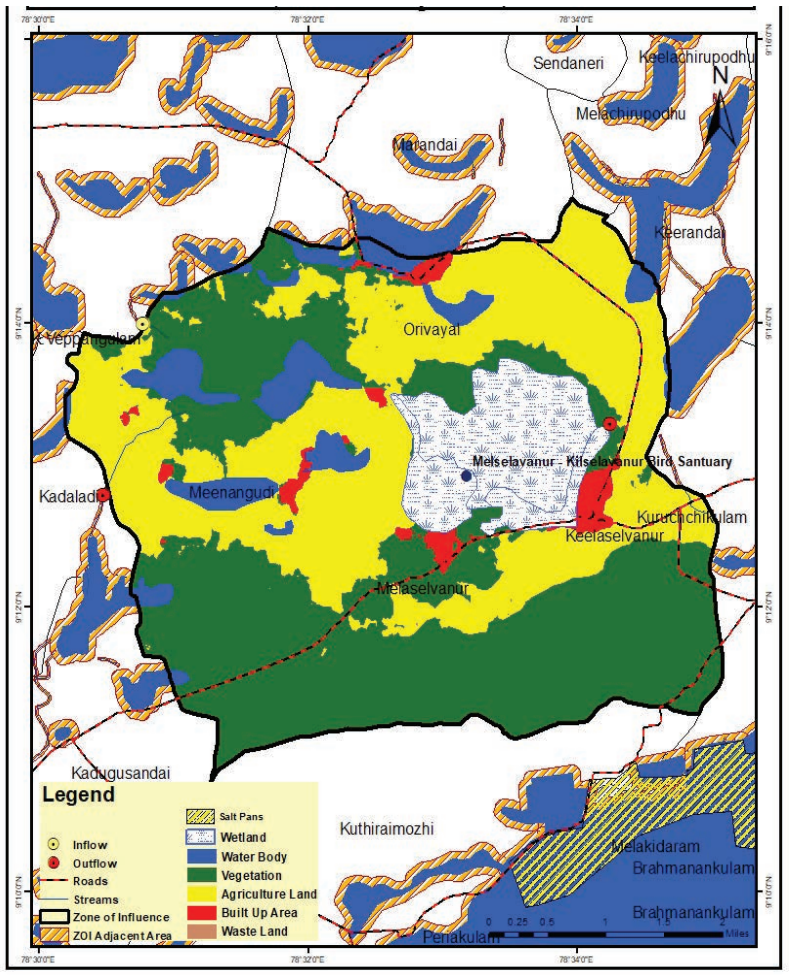
OVERVIEW AND LOCATION

The Melaselvanur-Kilaselvanur Bird Sanctuary is located in Ramanathapuram district, Tamil Nadu. The sanctuary spans an area of 462.08 hectares, with its geographical coordinates being 9˚21’55.58472” N latitude and 78˚33’10.58515” E longitude. The sanctuary falls under the jurisdiction of the Forest Department. It is situated in the villages of Melaselvanur and Ramanathapuram.

ECOSYSTEM SERVICES

The Melaselvanur-Kilaselvanur Bird Sanctuary offers various ecosystem services. It serves as a source of water for agriculture and plays a role in groundwater recharge. The sanctuary is also home to medicinal plants and has significant cultural and religious values. Additionally, it acts as a sink for sediments, supports the life cycle of fish or amphibians, and is a site of high congregation of migratory water birds. Furthermore, it is a recreational site, contributing to tourism and local well-being.

ZONE OF INFLUENCE MAP



HEALTH ASSESSMENT AND INDICATORS OF MELASELVANUR-KILASELVANUR BIRD SANCTUARY

S.No	Feature	Indicator	Desired Value	Actual Value	Category
1	Area	% Wetland converted to non-wetland use since 2000	0%	0%	A
2	Hydrology and Catchment	Ratio of number of natural inlets chocked and diverted to total number of natural inlets	0-0.2	0	A
		Ratio of number of natural outlets chocked and diverted to total number of natural outlets	0-0.2	0	A
		Biological Oxygen Demand (3 water samples)	3-6 mg/l	Less than 20% sample meet the criteria	E
3	Biodiversity	% wetland area covered by invasive macrophytes	<10%	<10%	A
		Annual waterbird count as a proportion of average count of last 5 years	Increasing	0.4-0.5	D
4	Governance	Clearly demarcated wetlands map	Wetlands map prepared and updated by SWA	Wetland map prepared and updated by SWA	A
		Wetland Management Plan	Management plan prepared and approved by SWA	Management plan prepared and approved by SWA	A
		Wetlands notification	Wetland is notified under WPA	No regulation	E
				Health Score	C

Date of Entry : 18/10/2024

WETLAND HEALTH

Wetlands in this range show poor ecological health, with some conversion to non-wetland uses, declining waterbird counts, and significant issues with water quality (low BOD compliance). Invasive species coverage is moderate to high, and governance is weak, with most wetlands lacking management plans, updated maps, or legal notification. Urgent conservation efforts are needed to address these challenges.



THREATS

The Melaselvanur-Kilaselvanur Bird Sanctuary is threatened by siltation, driven by substantial water flow from the surrounding watershed, which can lead to a build-up of sediments, impacting water quality and habitat health. The spread of invasive species also threatens the sanctuary, as these species can outcompete native flora and fauna, disrupting the ecosystem balance.



39 KARANKADU MANGROVE FOREST

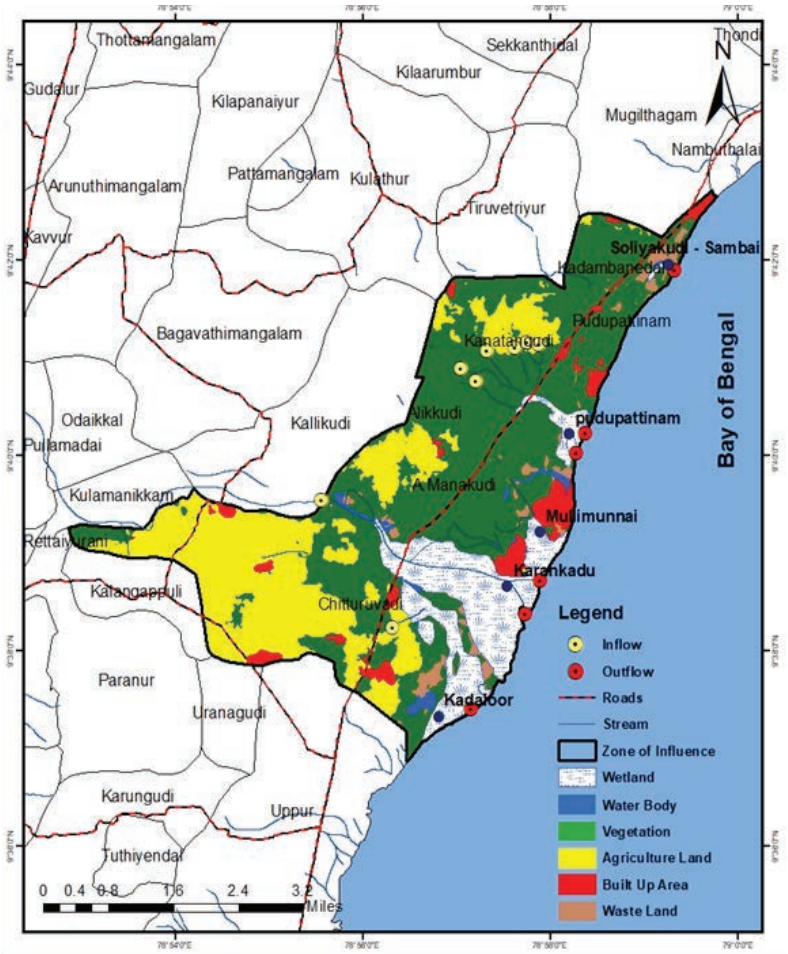
OVERVIEW AND LOCATION

The Karankadu Mangrove Forest is located in the Ramanathapuram district of Tamil Nadu, encompassing the villages of Karankadu, Thirivadanai, and Chitturvadi. Its geographical coordinates are 9°38’39.7” N latitude and 78°57’32.4” E longitude. The wetland is under the jurisdiction of the Forest Department.

ECOSYSTEM SERVICES

The Karankadu Mangrove Forest provides essential ecosystem services, including supporting fisheries, medicinal plants, and recreational activities. It buffers communities from floods and storms, hosts migratory birds, and supports the life cycles of fish and amphibians, while the mangroves play a critical role in carbon sequestration and coastal protection.

ZONE OF INFLUENCE MAP



HEALTH ASSESSMENT AND INDICATORS OF KARANKADU MANGROVE FOREST

S.No	Feature	Indicator	Desired Value	Actual Value	Category
1	Area	% Wetland converted to non-wetland use since 2000	0%	0%	A
2	Hydrology and Catchment	Ratio of number of natural inlets chocked and diverted to total number of natural inlets	0-0.2	0	A
		Ratio of number of natural outlets chocked and diverted to total number of natural outlets	0-0.2	0	A
		Biological Oxygen Demand (3 water samples)	3-6 mg/l	Less than 20% sample meet the criteria	E
3	Biodiversity	% wetland area covered by invasive macrophytes	<10%	<10%	A
		Annual waterbird count as a proportion of average count of last 5 years	Increasing	0.5-0.6	C
4	Governance	Clearly demarcated wetlands map	Wetlands map prepared and updated by SWA	Wetland map prepared but not placed under SWA	C
		Wetland Management Plan	Management plan prepared and approved by SWA	No Management plan	E
		Wetlands notification	Wetland is notified under WPA	No regulation	E
				Health Score	D

Date of Entry : 18/10/2024

WETLAND HEALTH

Wetlands in this category face severe ecological challenges, including significant conversion to non-wetland uses, poor water quality (low BOD compliance), high invasive species coverage, and declining biodiversity. Governance is largely absent, with no management plans, updated maps, or legal notification. Immediate and comprehensive conservation interventions are required to restore these wetlands.





THREATS

The spread of invasive species poses a significant threat to the Karankadu Mangrove Forest, as these species can outcompete native flora and fauna, disrupt the ecosystem's balance, and reduce biodiversity, thereby threatening the integrity of the wetland.



40 KOTHANDARAMAR LAGOON WETLAND

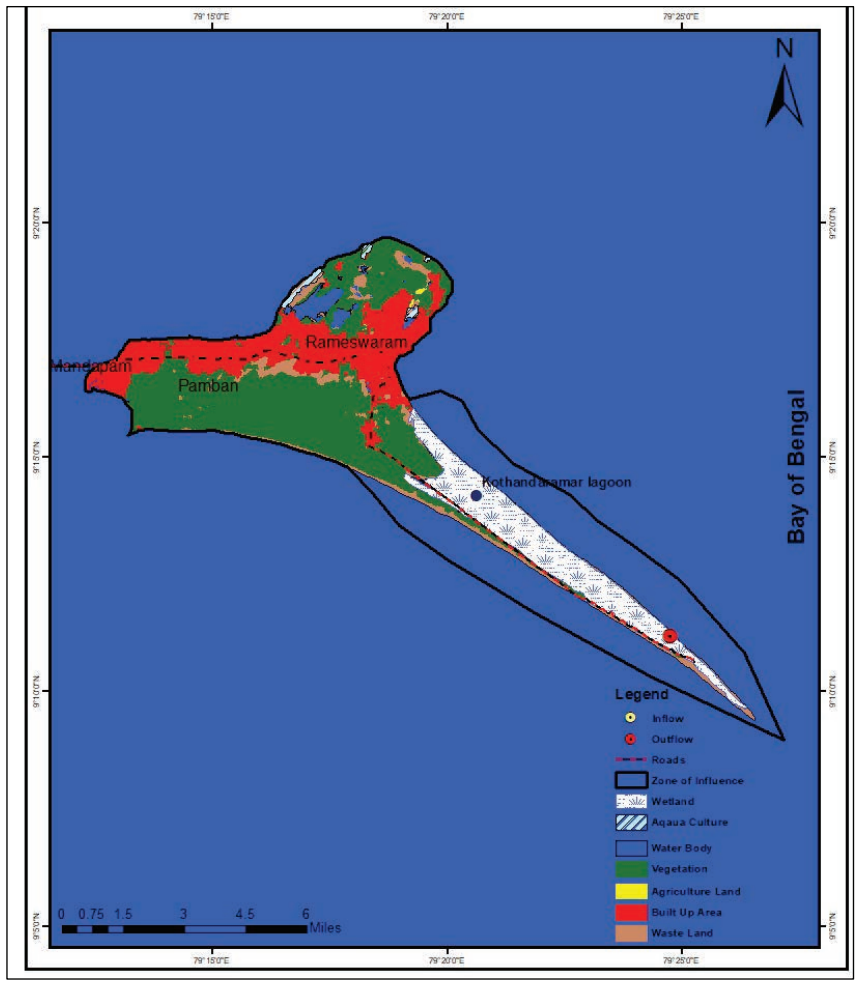
OVERVIEW AND LOCATION

Kothandaramar Lagoon, situated in the Ramanathapuram district of Tamil Nadu, spans an area of 1668.52 ha. It is under the jurisdiction of the Forest Department. Located at coordinates 12°35'56" N latitude and 79°50'32" E longitude, this lagoon is a vital coastal estuarine habitat, supporting a diverse ecosystem.

ECOSYSTEM SERVICES

Kothandaramar Lagoon offers several important ecosystem services, including supporting fisheries and medicinal plants. It holds significant cultural and religious value with a few temples within the Zone of Influence. The lagoon is also a recreational site, particularly for boating activities. It serves as a site for high congregation of migratory water birds and supports the life cycle of fish and amphibians.

ZONE OF INFLUENCE MAP



HEALTH ASSESSMENT AND INDICATORS OF KOTHANDARAMAR LAGOON WETLAND

S.No	Feature	Indicator	Desired Value	Actual Value	Category
1	Area	% Wetland converted to non-wetland use since 2000	0%	0%	A
2	Hydrology and Catchment	Ratio of number of natural inlets chocked and diverted to total number of natural inlets	0-0.2	0	A
		Ratio of number of natural outlets chocked and diverted to total number of natural outlets	0-0.2	0	A
		Biological Oxygen Demand (3 water samples)	3-6 mg/l	Less than 20% sample meet the criteria	E
3	Biodiversity	% wetland area covered by invasive macrophytes	<10%	<10%	A
		Annual waterbird count as a proportion of average count of last 5 years	Increasing	0.5-0.6	C
4	Governance	Clearly demarcated wetlands map	Wetlands map prepared and updated by SWA	Wetland map prepared but not placed under SWA	C
		Wetland Management Plan	Management plan prepared and approved by SWA	No Management plan	E
		Wetlands notification	Wetland is notified under WPA	No regulation	E
				Health Score	D

Date of Entry : 18/10/2024

WETLAND HEALTH

Wetlands in this category face severe ecological challenges, including significant conversion to non-wetland uses, poor water quality (low BOD compliance), high invasive species coverage, and declining biodiversity. Governance is largely absent, with no management plans, updated maps, or legal notification. Immediate and comprehensive conservation interventions are required to restore these wetlands.



THREATS

The Kothandaramar Lagoon faces threats such as pollution from the dumping of plastic waste, which impacts its water quality and ecosystem. Additionally, the spread of invasive species threatens the biodiversity and natural balance of the wetland.



41 GULF OF MANNAR MARINE BIOSPHERE RESERVE

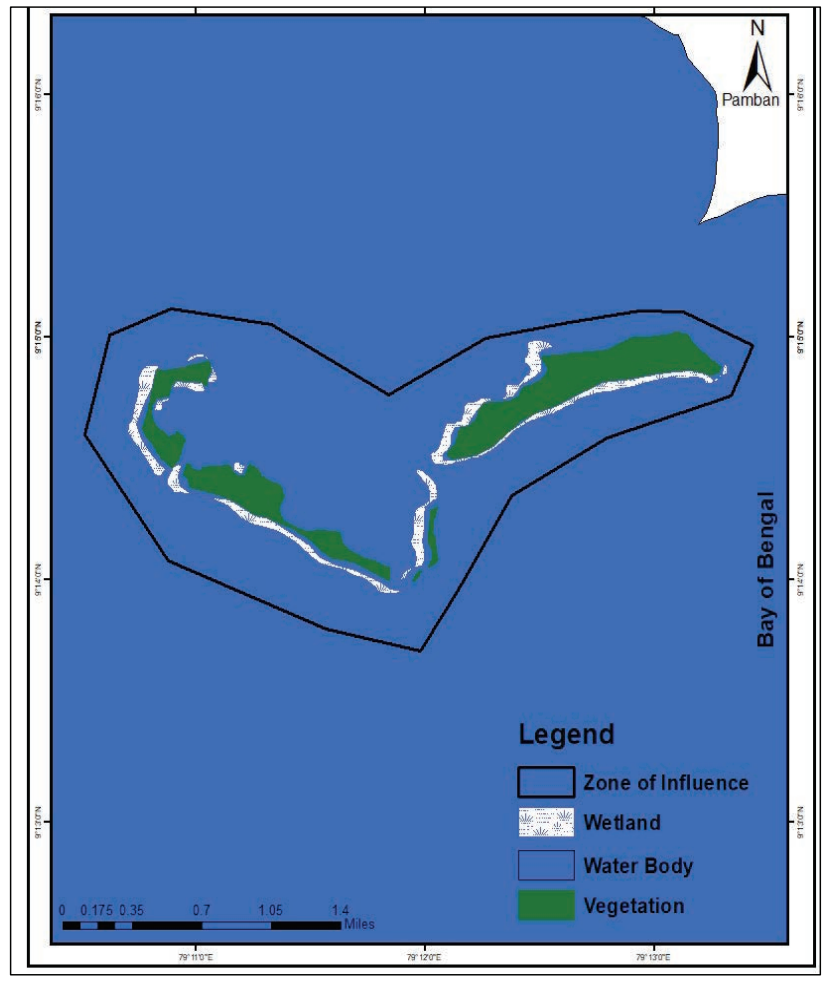
OVERVIEW AND LOCATION

The Gulf of Mannar Marine Biosphere Reserve, located in the Ramanathapuram district of Tamil Nadu, covers an area of 43.78 ha. It falls under the jurisdiction of the Forest Department. The wetland is situated at geographical coordinates of 9˚6’57” N latitude and 78˚47’12” E longitude.

ECOSYSTEM SERVICES

The Gulf of Mannar Marine Biosphere Reserve plays a crucial role in supporting fisheries, providing resources for local communities. It serves as a recreational site, with boating and tourism attracting significant numbers of visitors. The area acts as a sink for sediments, contributing to water quality maintenance. Its cultural and religious significance is marked by local temples, adding to the region’s heritage. The wetland also supports a high congregation of migratory water birds and serves as a vital breeding ground for fish and amphibians. Additionally, it contributes to carbon sequestration, enhancing its role in climate change mitigation.

ZONE OF INFLUENCE MAP



HEALTH ASSESSMENT AND INDICATORS OF GULF OF MANNAR MARINE BIOSPHERE RESERVE

S.No	Feature	Indicator	Desired Value	Actual Value	Category
1	Area	% Wetland converted to non-wetland use since 2000	0%	0%	A
2	Hydrology and Catchment	Ratio of number of natural inlets chocked and diverted to total number of natural inlets	0-0.2	0	A
		Ratio of number of natural outlets chocked and diverted to total number of natural outlets	0-0.2	0	A
		Biological Oxygen Demand (3 water samples)	3-6 mg/l	Less than 20% sample meet the criteria	E
3	Biodiversity	% wetland area covered by invasive macrophytes	<10%	<10%	A
		Annual waterbird count as a proportion of average count of last 5 years	Increasing	0.5-0.6	C
4	Governance	Clearly demarcated wetlands map	Wetlands map prepared and updated by SWA	Wetland map prepared and updated by SWA	A
		Wetland Management Plan	Management plan prepared and approved by SWA	Management plan prepared and approved by SWA	A
		Wetlands notification	Wetland is notified under WPA	No regulation	E
				Health Score	C+

Date of Entry : 18/10/2024

WETLAND HEALTH

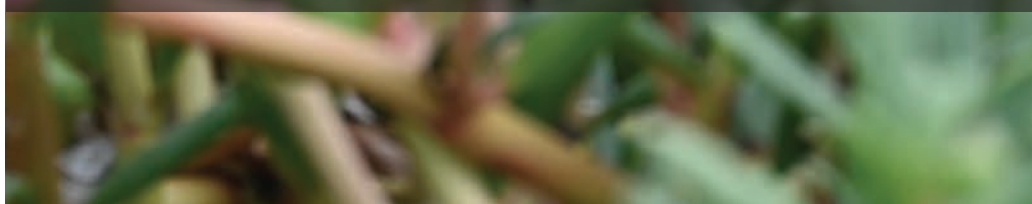
Wetlands in this category have fair ecological health, with no significant conversion to non-wetland uses and mostly intact hydrology. However, they face issues like poor water quality (low BOD compliance), moderate invasive species coverage, and declining biodiversity indicators. Governance is weak, with many wetlands lacking management plans, updated maps, or legal notification, highlighting the need for stronger conservation measures.





THREATS

The Gulf of Mannar Marine Biosphere Reserve faces threats from encroachment, with illegal fishing communities residing within the islands, disrupting the natural balance. Additionally, the spread of invasive species, such as Prosopis juliflora, further threatens the local ecosystem by outcompeting native vegetation and affecting biodiversity





42 KANJIRANKULAM BIRDS SANCTUARY

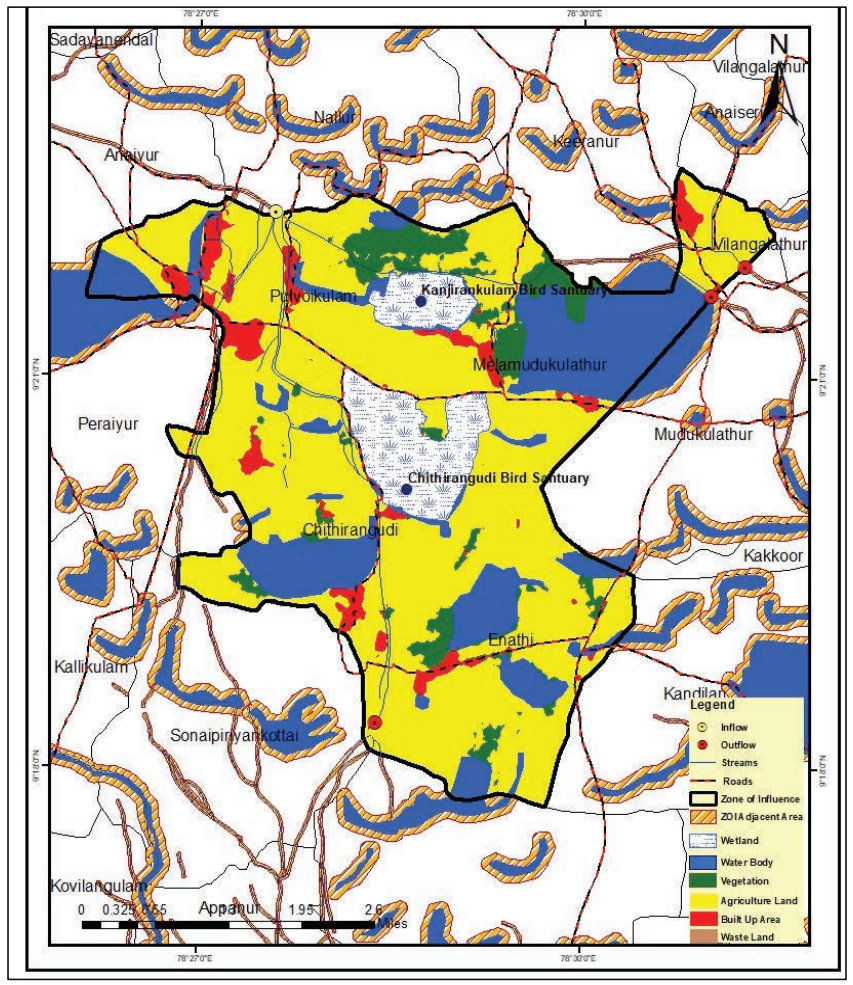
OVERVIEW AND LOCATION

Kanjirankulam Bird Sanctuary, located in Ramanathapuram district of Tamil Nadu, spans 96.99 hectares and serves as an important wetland habitat. Positioned at coordinates 9˚21’35” N latitude and 78˚28’44” E longitude, it is managed by the Forest Department, playing a key role in local biodiversity conservation and supporting migratory bird populations.

ECOSYSTEM SERVICES

The Kanjirankulam Bird Sanctuary provides various ecosystem services, such as being a source of water for agriculture and a significant groundwater recharge zone. It supports medicinal plants and serves as a recreational site, attracting nature enthusiasts and bird watchers. The wetland acts as a sink for sediments due to substantial water flow, has cultural and religious value with a temple around the embankment, and provides a suitable habitat for migratory birds. Additionally, it supports the life cycle of fish and amphibians, with nine amphibian species surviving in the area.

ZONE OF INFLUENCE MAP



HEALTH ASSESSMENT AND INDICATORS OF KANJIRANKULAM BIRDS SANCTUARY

S.No	Feature	Indicator	Desired Value	Actual Value	Category
1	Area	% Wetland converted to non-wetland use since 2000	0%	0%	A
2	Hydrology and Catchment	Ratio of number of natural inlets chocked and diverted to total number of natural inlets	0-0.2	0	A
		Ratio of number of natural outlets chocked and diverted to total number of natural outlets	0-0.2	0	A
		Biological Oxygen Demand (3 water samples)	3-6 mg/l	Less than 20% sample meet the criteria	E
3	Biodiversity	% wetland area covered by invasive macrophytes	<10%	<10%	A
		Annual waterbird count as a proportion of average count of last 5 years	Increasing	0.5-0.6	C
4	Governance	Clearly demarcated wetlands map	Wetlands map prepared and updated by SWA	Wetland map prepared and updated by SWA	A
		Wetland Management Plan	Management plan prepared and approved by SWA	Management plan prepared and approved by SWA	A
		Wetlands notification	Wetland is notified under WPA	No regulation	E
				Health Score	C+

Date of Entry : 18/10/2024

Date of Entry : 18/10/2024

WETLAND HEALTH

Wetlands in this category have fair ecological health, with no significant conversion to non-wetland uses and mostly intact hydrology. However, they face issues like poor water quality (low BOD compliance), moderate invasive species coverage, and declining biodiversity indicators. Governance is weak, with many wetlands lacking management plans, updated maps, or legal notification, highlighting the need for stronger conservation measures.





THREATS

The Kanjirankulam Bird Sanctuary faces several threats, including the dumping of municipal solid waste around the bund, leading to pollution. Siltation is a concern due to substantial water flow from the surrounding watershed. The spread of invasive species and disruption from human activities, such as people playing cricket inside the wetland during the summer, further threaten the wetland's ecological balance.



43 CHITRANGUDI BIRD SANCTUARY

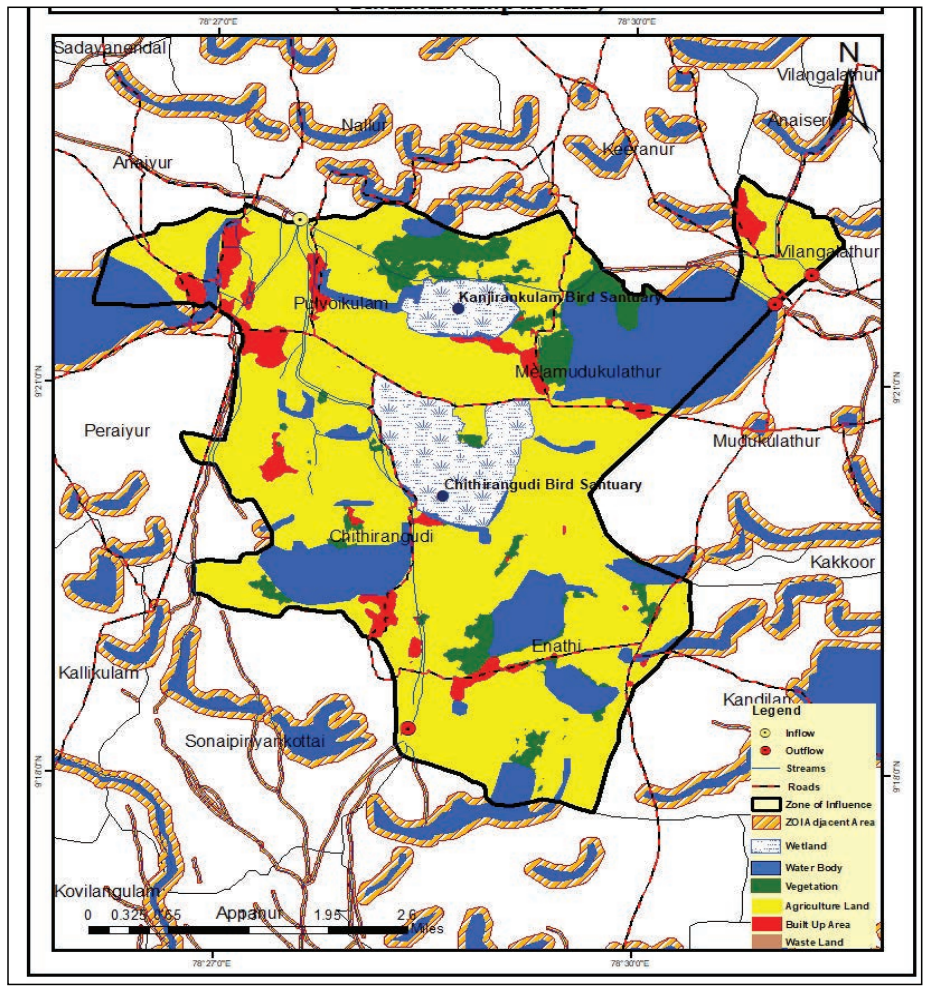
OVERVIEW AND LOCATION

Chitrangudi Bird Sanctuary is located in the Ramanathapuram district of Tamil Nadu, covering an area of 260.56 ha. It falls under the jurisdiction of the Forest Department. The wetland's geographical coordinates are 9˚20’28” N latitude and 78˚28’40” E longitude. This sanctuary is home to diverse flora and fauna, including several species of migratory birds, making it an important ecological site.

ECOSYSTEM SERVICES

The Chitrangudi Bird Sanctuary provides several ecosystem services, including being a source of water for agriculture through water drawn from its outflow. Medicinal plants grow around the wetland, and it serves as a recreational site, attracting nature enthusiasts, particularly for birdwatching. It is a major groundwater recharge area and acts as a sink for sediments due to substantial water flow from surrounding watersheds. The sanctuary holds significant cultural and religious value, with a temple located around its embankment. It is also a crucial site for the congregation of migratory water birds and supports the life cycle of nine amphibian species.

ZONE OF INFLUENCE MAP



HEALTH ASSESSMENT AND INDICATORS OF CHITRANGUDI BIRD SANCTUARY

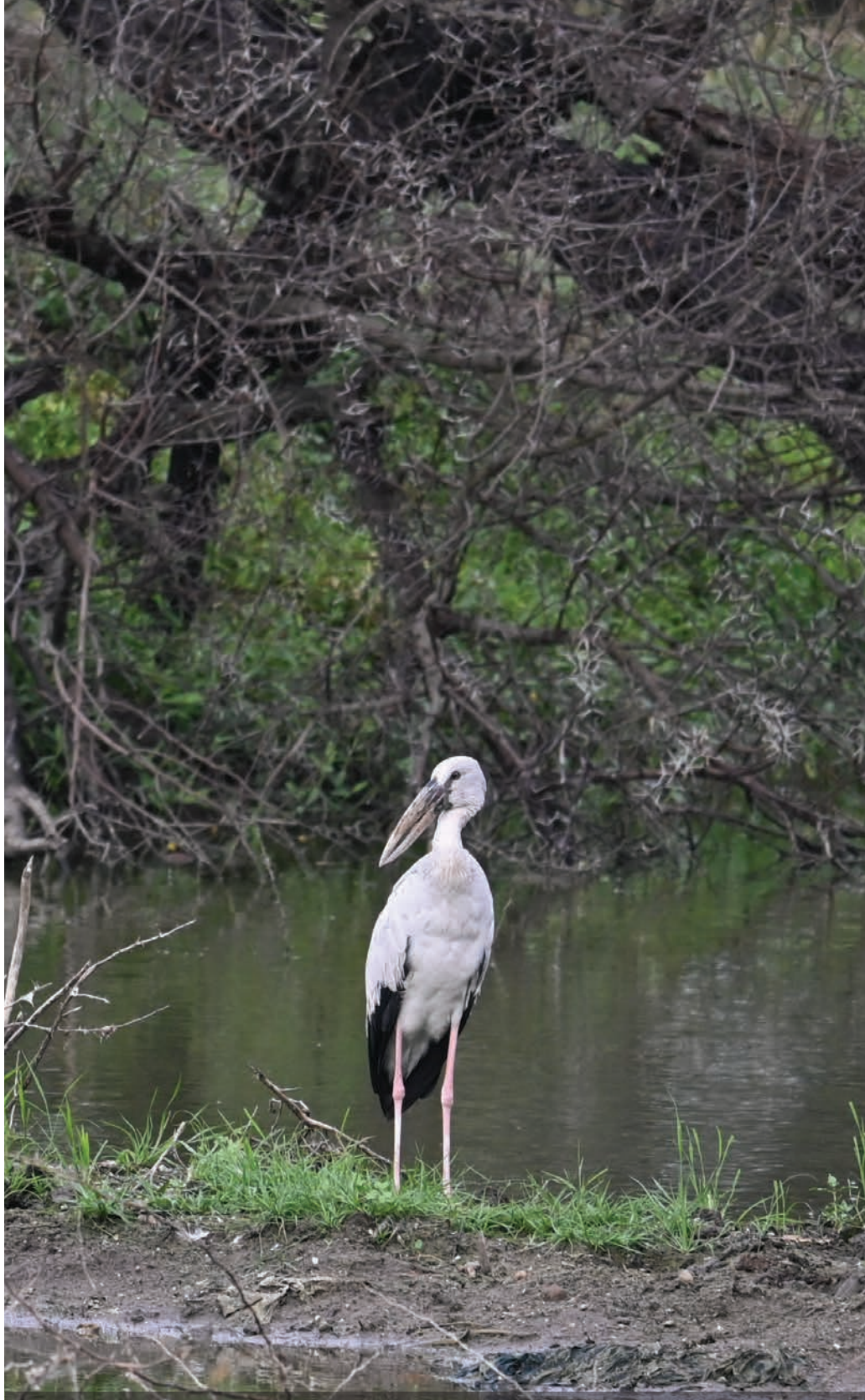
S.No	Feature	Indicator	Desired Value	Actual Value	Category
1	Area	% Wetland converted to non-wetland use since 2000	0%	0%	A
2	Hydrology and Catchment	Ratio of number of natural inlets chocked and diverted to total number of natural inlets	0-0.2	0	A
		Ratio of number of natural outlets chocked and diverted to total number of natural outlets	0-0.2	0	A
		Biological Oxygen Demand (3 water samples)	3-6 mg/l	60-80% sample meet the criteria	B
3	Biodiversity	% wetland area covered by invasive macrophytes	<10%	<10%	A
		Annual waterbird count as a proportion of average count of last 5 years	Increasing	0.5-0.6	C
4	Governance	Clearly demarcated wetlands map	Wetlands map prepared and updated by SWA	Wetland map prepared and updated by SWA	A
		Wetland Management Plan	Management plan prepared and approved by SWA	Management plan prepared and approved by SWA	A
		Wetlands notification	Wetland is notified under WPA	No regulation	E
				Health Score	B

Date of Entry : 18/10/2024

WETLAND HEALTH

Wetlands in this range exhibit moderate ecological health, with minimal conversion to non-wetland uses and generally intact hydrology. However, some wetlands face challenges like moderate invasive species coverage or declining waterbird counts. Governance is partially effective, with some wetlands lacking management plans or legal notification, indicating room for improvement in conservation efforts.





THREATS

The Chitrangudi Bird Sanctuary faces several threats, including pollution from the dumping of municipal solid waste around its bund. Siltation is an issue due to substantial water flow from the surrounding watershed, which impacts water quality. The spread of invasive species also poses a significant threat to the wetland's ecological balance.



44 THEERTHANGAL BIRD SANCTUARY

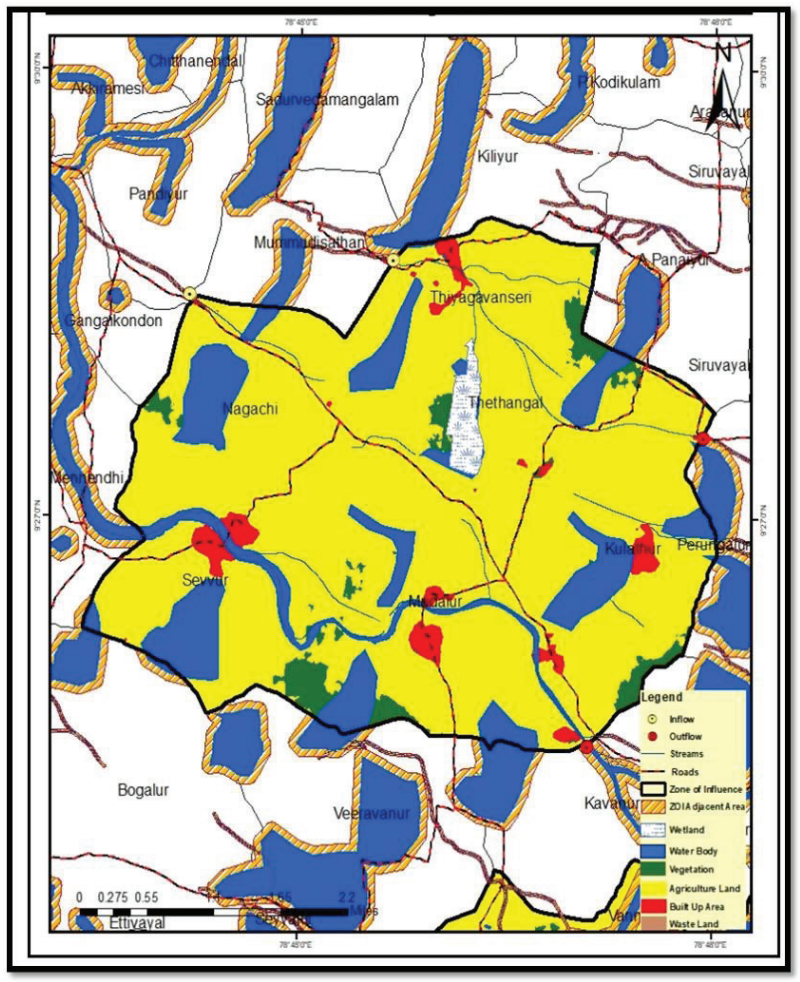
OVERVIEW AND LOCATION

Theerthangal Bird Sanctuary is located in the Ramanatapuram district of Tamil Nadu. The wetland spans an area of 51.37 ha and is situated at latitude 9°27′23″ N and longitude 78°46′19″ E. It is managed by the Forest Department and serves as an important site for biodiversity conservation and ecological balance.

ECOSYSTEM SERVICES

The Theerthangal Bird Sanctuary provides various ecosystem services. It supports agricultural activities through water drawn from its outflow, sustains subsistence fishing, and contains medicinal plants. It plays a significant role in groundwater recharge and sediment sink due to water flow from the surrounding watershed. The wetland is culturally significant, with a temple located around its embankment. It also provides a vital site for the congregation of migratory water birds and supports the life cycle of fish and amphibians, with almost eight amphibian species thriving in the area.

ZONE OF INFLUENCE MAP



HEALTH ASSESSMENT AND INDICATORS OF THEERTHANGAL BIRD SANCTUARY

S.No	Feature	Indicator	Desired Value	Actual Value	Category
1	Area	% Wetland converted to non-wetland use since 2000	0%	0%	A
2	Hydrology and Catchment	Ratio of number of natural inlets chocked and diverted to total number of natural inlets	0-0.2	0	A
		Ratio of number of natural outlets chocked and diverted to total number of natural outlets	0-0.2	0	A
		Biological Oxygen Demand (3 water samples)	3-6 mg/l	Less than 20% sample meet the criteria	E
3	Biodiversity	% wetland area covered by invasive macrophytes	<10%	<10%	A
		Annual waterbird count as a proportion of average count of last 5 years	Increasing	0.5-0.6	C
4	Governance	Clearly demarcated wetlands map	Wetlands map prepared and updated by SWA	Wetland map prepared and updated by SWA	A
		Wetland Management Plan	Management plan prepared and approved by SWA	Management plan prepared and approved by SWA	A
		Wetlands notification	Wetland is notified under WPA	No regulation	E
				Health Score	C+

Date of Entry : 18/10/2024

WETLAND HEALTH

Wetlands in this category have fair ecological health, with no significant conversion to non-wetland uses and mostly intact hydrology. However, they face issues like poor water quality (low BOD compliance), moderate invasive species coverage, and declining biodiversity indicators. Governance is weak, with many wetlands lacking management plans, updated maps, or legal notification, highlighting the need for stronger conservation measures.



THREATS

Theerthangal Wetland faces threats from siltation, caused by substantial water flow from the surrounding watershed, and the spread of invasive species, which disrupt its ecological balance. These factors pose challenges to the wetland's sustainability and biodiversity.



45 SAKKARAKOTTAI BIRD SANCTUARY

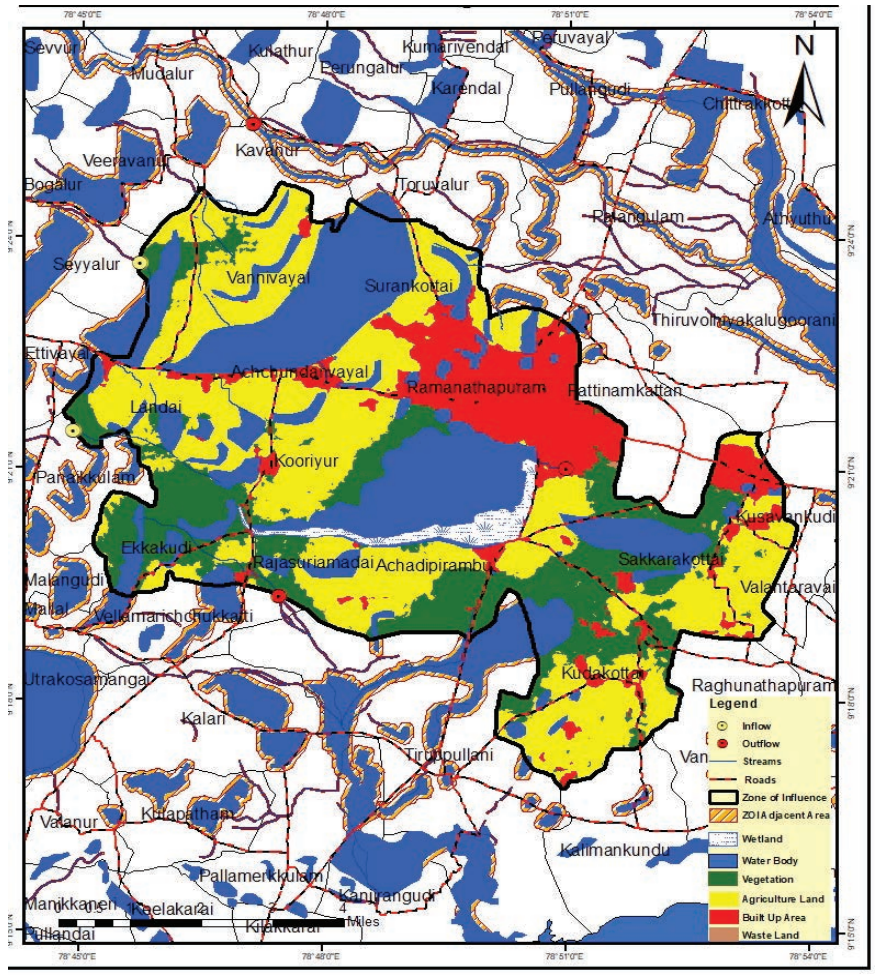
OVERVIEW AND LOCATION

The Sakkarakottai Bird Sanctuary is located in Ramanatapuram, Tamil Nadu, with an area of 230.59 ha. It serves as a crucial habitat for various species and plays an important ecological role. The sanctuary is managed by the Forest Department. The geographical coordinates of the sanctuary are Latitude: 9°21'8" N, Longitude: 78°48'50" E.

ECOSYSTEM SERVICES

The Sakkarakottai Bird Sanctuary provides essential ecosystem services, including water for agriculture, medicinal plants, and groundwater recharge. It attracts nature enthusiasts for bird watching, supports the life cycle of fish and amphibians, and serves as a significant site for migratory bird congregation, enhancing biodiversity.

ZONE OF INFLUENCE MAP



HEALTH ASSESSMENT AND INDICATORS OF SAKKARAKOTTAI BIRD SANCTUARY

S.No	Feature	Indicator	Desired Value	Actual Value	Category
1	Area	% Wetland converted to non-wetland use since 2000	0%	0%	A
2	Hydrology and Catchment	Ratio of number of natural inlets chocked and diverted to total number of natural inlets	0-0.2	0	A
		Ratio of number of natural outlets chocked and diverted to total number of natural outlets	0-0.2	0	A
		Biological Oxygen Demand (3 water samples)	3-6 mg/l	Less than 20% sample meet the criteria	E
3	Biodiversity	% wetland area covered by invasive macrophytes	<10%	<10%	A
		Annual waterbird count as a proportion of average count of last 5 years	Increasing	0.5-0.6	C
4	Governance	Clearly demarcated wetlands map	Wetlands map prepared and updated by SWA	Wetland map prepared and updated by SWA	A
		Wetland Management Plan	Management plan prepared and approved by SWA	Management plan prepared and approved by SWA	A
		Wetlands notification	Wetland is notified under WPA	No regulation	E
				Health Score	C+

Date of Entry : 18/10/2024

WETLAND HEALTH

Wetlands in this category have fair ecological health, with no significant conversion to non-wetland uses and mostly intact hydrology. However, they face issues like poor water quality (low BOD compliance), moderate invasive species coverage, and declining biodiversity indicators. Governance is weak, with many wetlands lacking management plans, updated maps, or legal notification, highlighting the need for stronger conservation measures.





THREATS

The Sakkarakottai Bird Sanctuary faces threats such as siltation due to substantial water flow from surrounding watersheds, encroachment from local activities, and the spread of invasive species, which disrupt the ecosystem balance and affect the sanctuary's overall health and biodiversity.



46 VELLARIVELLI ERI

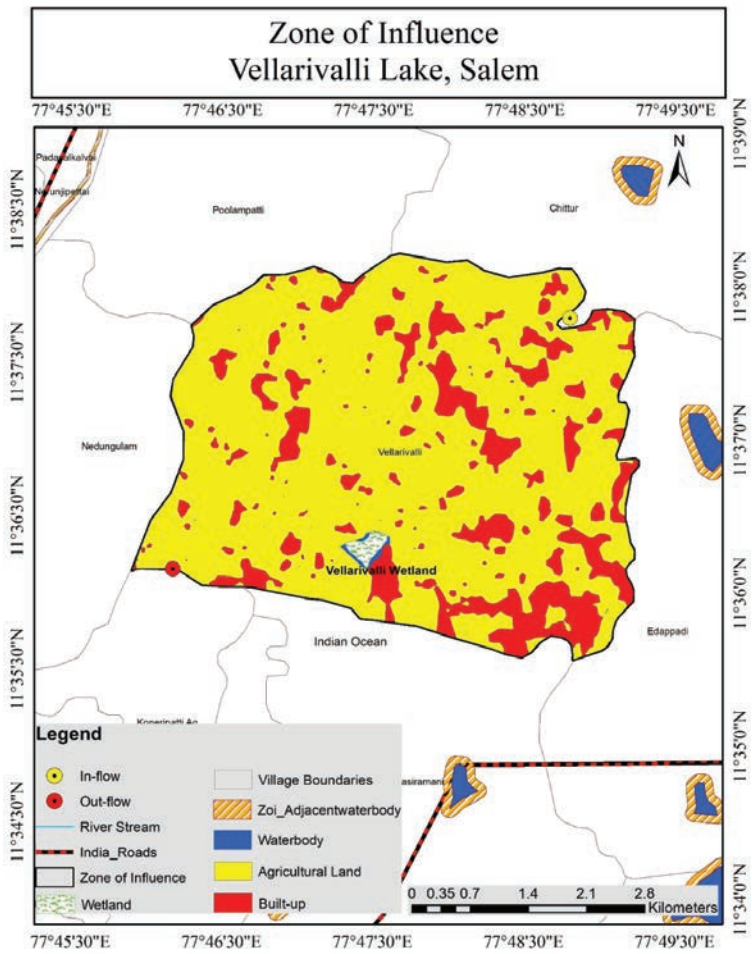
OVERVIEW AND LOCATION

The Vellarveli Eri is a wetland located in the Salem district of Tamil Nadu, near the village of Vellarveli Eri, Edappadi. The wetland covers an area of 79.4 ha and is governed by the Water Resource Department. It lies at coordinates 11˚36’22” N and 77˚47’33” E.

ECOSYSTEM SERVICES

Vellarveli Eri serves multiple ecosystem services. It provides water for agricultural activities through its outlet, supports authorized fishing through leasing, and contains medicinal plants. The wetland plays a role in groundwater recharge, sedimentation, and supports the life cycle of fish and amphibians, with around eight amphibian species identified. Additionally, it holds cultural and religious significance.

ZONE OF INFLUENCE MAP



HEALTH ASSESSMENT AND INDICATORS OF VELLARIVELLI ERI

S.No	Feature	Indicator	Desired Value	Actual Value	Category
1	Area	% Wetland converted to non-wetland use since 2000	0%	0%	A
2	Hydrology and Catchment	Ratio of number of natural inlets chocked and diverted to total number of natural inlets	0-0.2	0	A
		Ratio of number of natural outlets chocked and diverted to total number of natural outlets	0-0.2	0	A
		Biological Oxygen Demand (3 water samples)	3-6 mg/l	Less than 20% sample meet the criteria	E
3	Biodiversity	% wetland area covered by invasive macrophytes	<10%	<10%	A
		Annual waterbird count as a proportion of average count of last 5 years	Increasing	0.5-0.6	C
4	Governance	Clearly demarcated wetlands map	Wetlands map prepared and updated by SWA	Wetland map prepared but not placed under SWA	C
		Wetland Management Plan	Management plan prepared and approved by SWA	No Management plan	E
		Wetlands notification	Wetland is notified under WPA	No regulation	E
				Health Score	D

Date of Entry : 18/10/2024

WETLAND HEALTH

Wetlands in this category face severe ecological challenges, including significant conversion to non-wetland uses, poor water quality (low BOD compliance), high invasive species coverage, and declining biodiversity. Governance is largely absent, with no management plans, updated maps, or legal notification. Immediate and comprehensive conservation interventions are required to restore these wetlands.



THREATS

Vellariveli Eri faces several threats, including pollution from household solid waste dumping, siltation due to substantial water flow from the surrounding watershed, and the spread of invasive species. Additionally, the dumping of poultry waste contributes to environmental degradation, impacting the wetland's overall health and biodiversity.





47 YERCAUD ERI

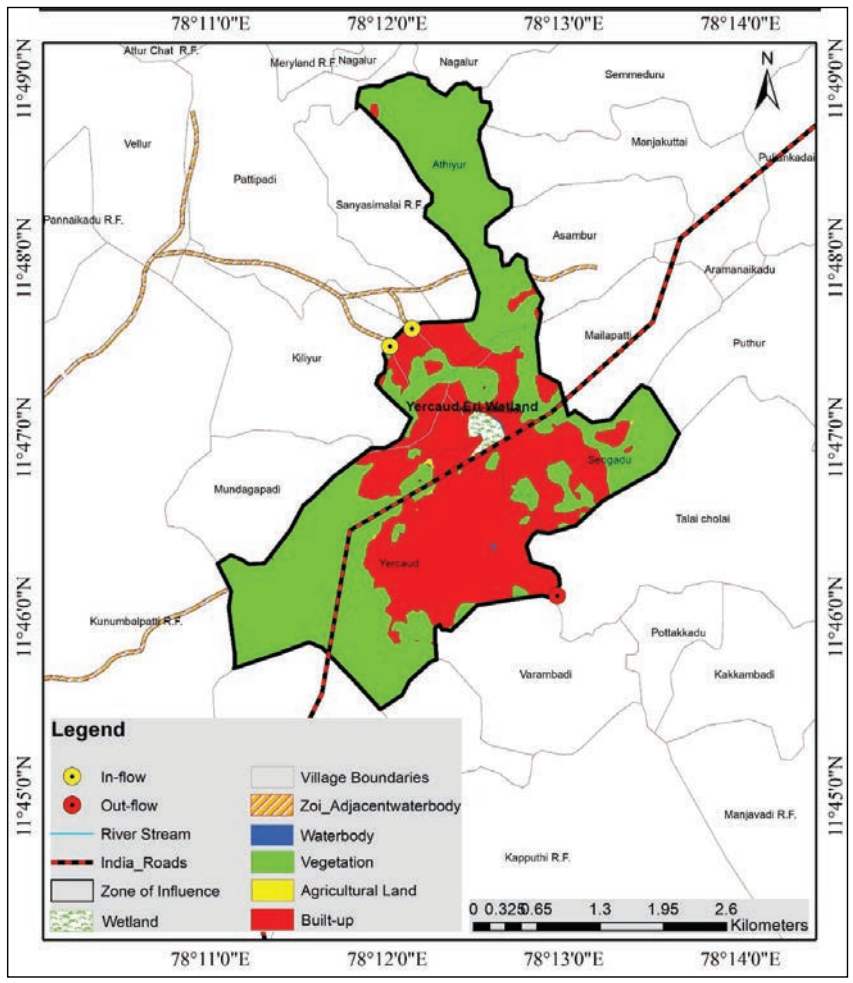
OVERVIEW AND LOCATION

Yercaud Eri Wetland is located in the Salem district of Tamil Nadu, in the villages of Yercaud and Kombaikkadu. The wetland spans an area of 10.91 hectares, and its jurisdiction falls under the Forest Department. It lies at a geographical coordinate of approximately 11°47’2.76” N latitude and 78°12’36.72” E longitude.

ECOSYSTEM SERVICES

Yercaud Eri Wetland provides a variety of ecosystem services. It supports medicinal plants, serves as a recreational site with a significant number of nature enthusiasts, especially for boating, and plays a crucial role in groundwater recharge. It also acts as a sink for sediments, with substantial water flow from the surrounding watershed.

ZONE OF INFLUENCE MAP



HEALTH ASSESSMENT AND INDICATORS OF YERCAUD ERI

S.No	Feature	Indicator	Desired Value	Actual Value	Category
1	Area	% Wetland converted to non-wetland use since 2000	0%	0%	A
2	Hydrology and Catchment	Ratio of number of natural inlets chocked and diverted to total number of natural inlets	0-0.2	0	A
		Ratio of number of natural outlets chocked and diverted to total number of natural outlets	0-0.2	0	A
		Biological Oxygen Demand (3 water samples)	3-6 mg/l	Less than 20% sample meet the criteria	E
3	Biodiversity	% wetland area covered by invasive macrophytes	<10%	<10%	A
		Annual waterbird count as a proportion of average count of last 5 years	Increasing	0.5-0.6	C
4	Governance	Clearly demarcated wetlands map	Wetlands map prepared and updated by SWA	Wetland map prepared but not placed under SWA	C
		Wetland Management Plan	Management plan prepared and approved by SWA	No Management plan	E
		Wetlands notification	Wetland is notified under WPA	No regulation	E
				Health Score	D

Date of Entry : 18/10/2024

WETLAND HEALTH

Wetlands in this category face severe ecological challenges, including significant conversion to non-wetland uses, poor water quality (low BOD compliance), high invasive species coverage, and declining biodiversity. Governance is largely absent, with no management plans, updated maps, or legal notification. Immediate and comprehensive conservation interventions are required to restore these wetlands.





THREATS

Yercaud Eri Wetland faces challenges such as pollution from tourism, leading to increased plastic waste, and sedimentation, with the lake's sediment containing pollutants. Siltation is also a concern due to substantial water flow from the surrounding watershed.



48 VAGAIKULAM WETLAND

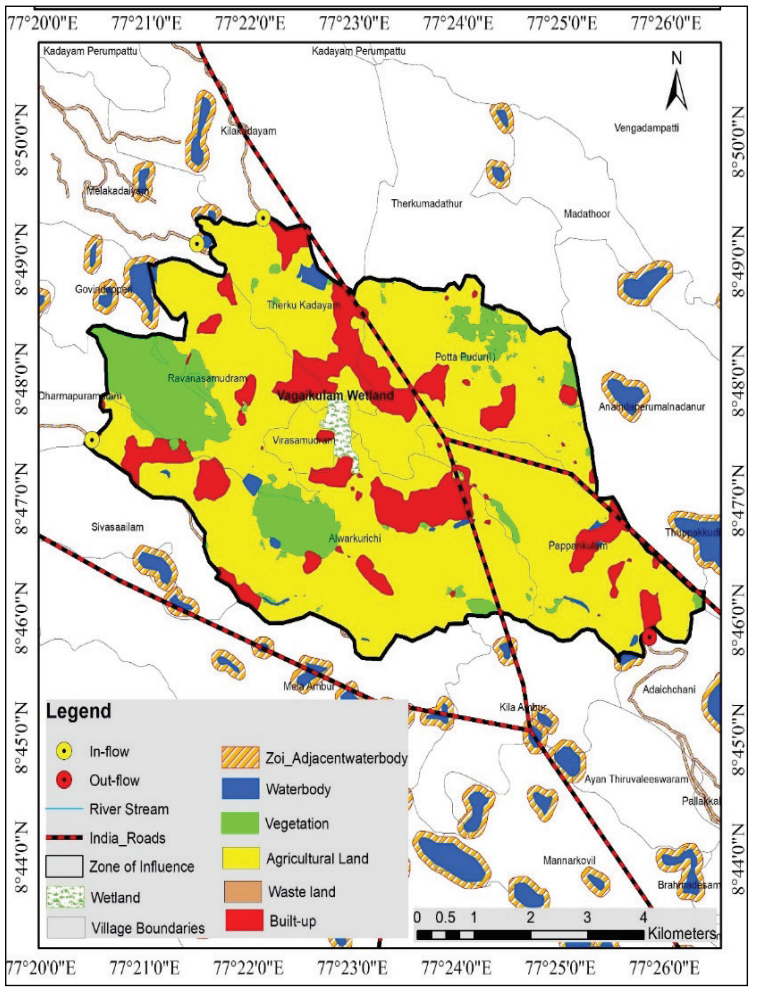
OVERVIEW AND LOCATION

Vagaikulam Wetland is located in Veerasamudram and Ambasamudiram of Tirunelveli district, Tamil Nadu. It spans an area of 35.49 hectares with geographical coordinates of 8˚47’42.2” N latitude and 77˚22’47.1” E longitude. The wetland is managed by an NGO, emphasizing its importance in the region.

ECOSYSTEM SERVICES

The Vagaikulam Wetland serves multiple ecosystem services, including sourcing water for agricultural activities and supporting communal fishing. It harbors medicinal plants and plays a critical role in groundwater recharge. The wetland acts as a sediment sink, features cultural significance with a temple along its embankment, and serves as a congregation site for migratory water birds. Additionally, it supports the life cycle of various fish and amphibians, with eight amphibian species identified.

ZONE OF INFLUENCE MAP



HEALTH ASSESSMENT AND INDICATORS OF VAGAIKULAM WETLAND

S.No	Feature	Indicator	Desired Value	Actual Value	Category
1	Area	% Wetland converted to non-wetland use since 2000	0%	1.5%	B
2	Hydrology and Catchment	Ratio of number of natural inlets chocked and diverted to total number of natural inlets	0-0.2	0	A
		Ratio of number of natural outlets chocked and diverted to total number of natural outlets	0-0.2	0	A
		Biological Oxygen Demand (3 water samples)	3-6 mg/l	Less than 20% sample meet the criteria	E
3	Biodiversity	% wetland area covered by invasive macrophytes	<10%	<10%	A
		Annual waterbird count as a proportion of average count of last 5 years	Increasing	0.6-0.7	B
4	Governance	Clearly demarcated wetlands map	Wetlands map prepared and updated by SWA	Wetland map prepared but not placed under SWA	C
		Wetland Management Plan	Management plan prepared and approved by SWA	No Management plan	E
		Wetlands notification	Wetland is notified under WPA	No regulation	E
				Health Score	D

Date of Entry : 18/10/2024

Date of Entry : 18/10/2024

WETLAND HEALTH

Wetlands in this category face severe ecological challenges, including significant conversion to non-wetland uses, poor water quality (low BOD compliance), high invasive species coverage, and declining biodiversity. Governance is largely absent, with no management plans, updated maps, or legal notification. Immediate and comprehensive conservation interventions are required to restore these wetlands.



THREATS

The Vagaikulam Wetland faces significant threats, including siltation due to substantial water flow from the surrounding watershed and the spread of invasive species, which disrupt the native ecosystem.



49 AGNI RIVER MOUTH

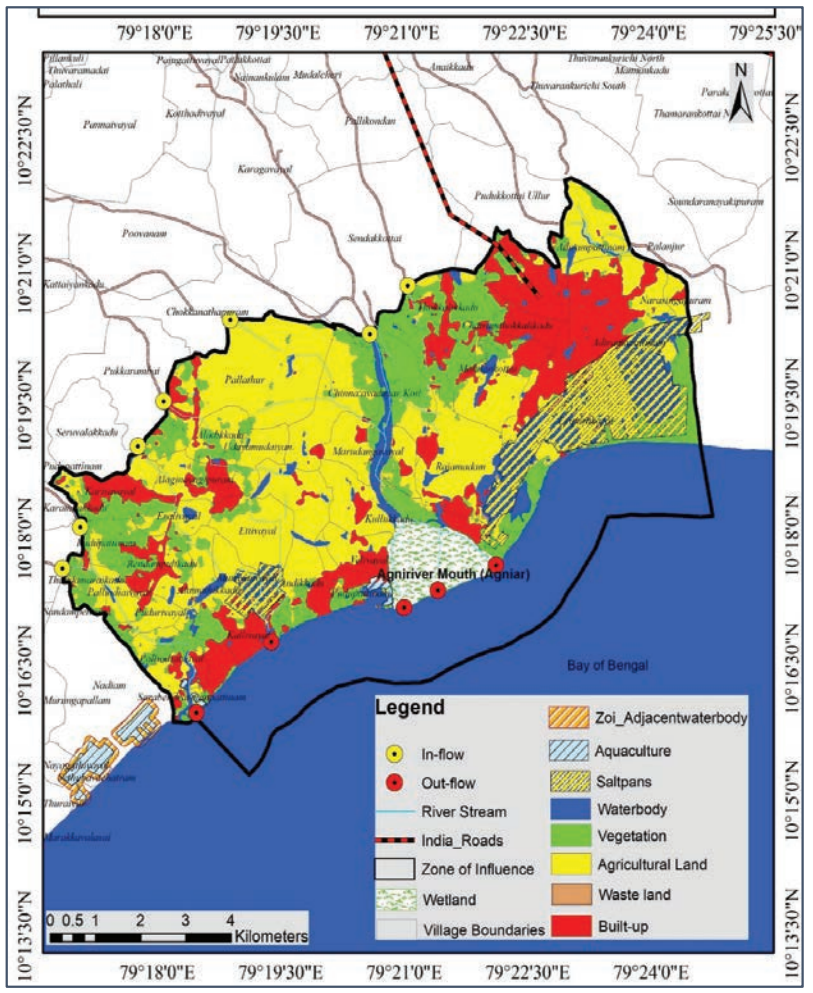
OVERVIEW AND LOCATION

Agni River Mouth, located in Thanjavur, Tamil Nadu, spans 289.15 ha and is situated at the geographical coordinates of 10°17’32.8308” N latitude and 79°21’25.8804” E longitude. This coastal estuary is formed by the confluence of the Agni River and the Bay of Bengal, with additional water sources from the Kaveri River and Kannaru. It plays a vital role in supporting biodiversity and water systems. The wetland falls under the jurisdiction of the Tamil Nadu Forest Department, with a zone of influence covering 9,459.94 ha, impacting nearby areas such as Rajamadam, Pattukkottai, and Muthupet.

ECOSYSTEM SERVICES

The Agni River Mouth supports fisheries and aquaculture, with mangroves aiding carbon sequestration and acting as natural buffers against floods and storms. It holds cultural significance with temples nearby and serves as a habitat for migratory water birds, fish, and amphibians. Medicinal plants are also found around the wetland.

ZONE OF INFLUENCE MAP



HEALTH ASSESSMENT AND INDICATORS OF AGNI RIVER MOUTH

S.No	Feature	Indicator	Desired Value	Actual Value	Category
1	Area	% Wetland converted to non-wetland use since 2000	0%	0%	A
2	Hydrology and Catchment	Ratio of number of natural inlets chocked and diverted to total number of natural inlets	0-0.2	0	A
		Ratio of number of natural outlets chocked and diverted to total number of natural outlets	0-0.2	0	A
		Biological Oxygen Demand (3 water samples)	3-6 mg/l	Less than 20% sample meet the criteria	E
3	Biodiversity	% wetland area covered by invasive macrophytes	<10%	<10%	A
		Annual waterbird count as a proportion of average count of last 5 years	Increasing	0.5-0.6	C
4	Governance	Clearly demarcated wetlands map	Wetlands map prepared and updated by SWA	Wetland map prepared but not placed under SWA	C
		Wetland Management Plan	Management plan prepared and approved by SWA	No Management plan	E
		Wetlands notification	Wetland is notified under WPA	No regulation	E
				Health Score	D

Date of Entry : 18/10/2024

WETLAND HEALTH

Wetlands in this category face severe ecological challenges, including significant conversion to non-wetland uses, poor water quality (low BOD compliance), high invasive species coverage, and declining biodiversity. Governance is largely absent, with no management plans, updated maps, or legal notification. Immediate and comprehensive conservation interventions are required to restore these wetlands.





THREATS

The primary threat to the Agni River Mouth Wetland is the proliferation of invasive species, which undermines the native ecosystem and biodiversity. These species dominate over indigenous flora and fauna, causing significant ecological disruption.

50 AMBULIYAR RIVER MOUTH

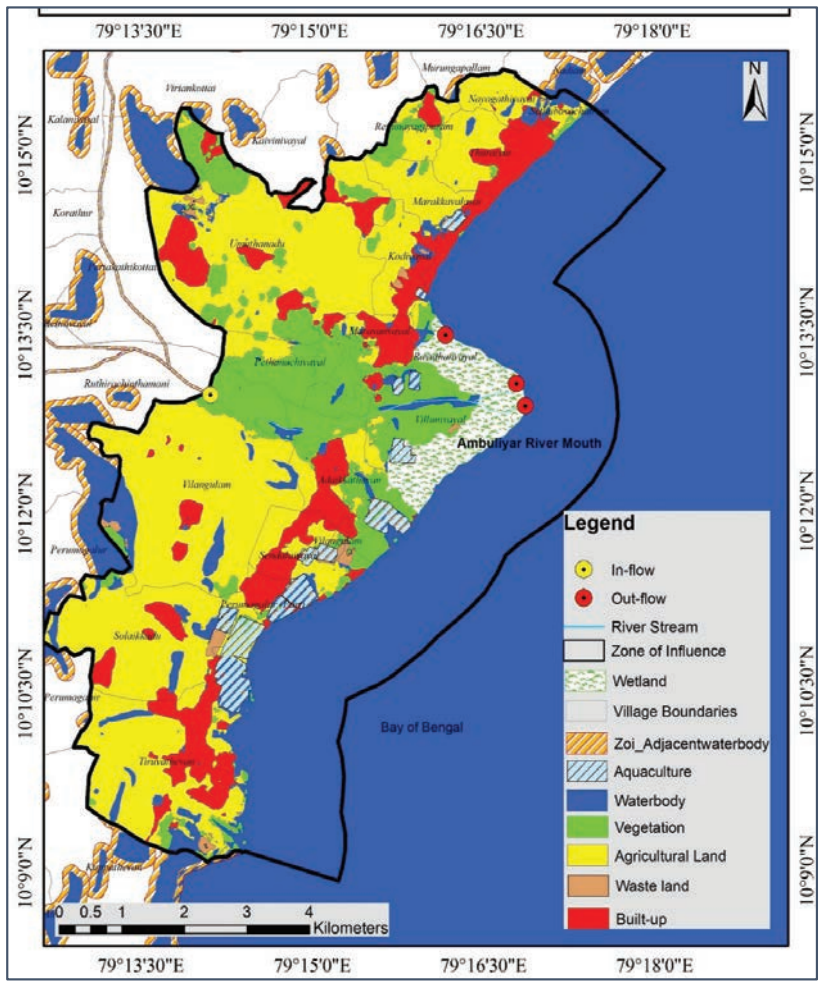
OVERVIEW AND LOCATION

The Ambuliyar River Mouth, located in Thanjavur, Tamil Nadu, spans 257.25 ha and is situated at 10°13'0.534" N latitude and 79°16'44.1804" E longitude. It connects to the Bay of Bengal and provides essential ecological support, including mangroves that act as natural buffers against storms. The wetland influences nearby villages such as Muthupet and Peravurani, with a total zone of influence covering 6664.69 ha.

ECOSYSTEM SERVICES

The Ambuliyar River Mouth provides key ecosystem services, including the presence of medicinal plants, acting as a sink for sediments, supporting a high congregation of migratory birds, and facilitating the life cycle of fish and amphibians, crucial for maintaining biodiversity and ecological balance.

ZONE OF INFLUENCE MAP



HEALTH ASSESSMENT AND INDICATORS OF AMBULIYAR RIVER MOUTH

S.No	Feature	Indicator	Desired Value	Actual Value	Category
1	Area	% Wetland converted to non-wetland use since 2000	0%	1-5%	B
2	Hydrology and Catchment	Ratio of number of natural inlets chocked and diverted to total number of natural inlets	0-0.2	0	A
		Ratio of number of natural outlets chocked and diverted to total number of natural outlets	0-0.2	0	A
		Biological Oxygen Demand (3 water samples)	3-6 mg/l	Less than 20% sample meet the criteria	E
3	Biodiversity	% wetland area covered by invasive macrophytes	<10%	<10%	A
		Annual waterbird count as a proportion of average count of last 5 years	Increasing	0.5-0.6	C
4	Governance	Clearly demarcated wetlands map	Wetlands map prepared and updated by SWA	Wetland map prepared but not placed under SWA	C
		Wetland Management Plan	Management plan prepared and approved by SWA	No Management plan	E
		Wetlands notification	Wetland is notified under WPA	No regulation	E
				Health Score	D

Date of Entry : 18/10/2024

WETLAND HEALTH

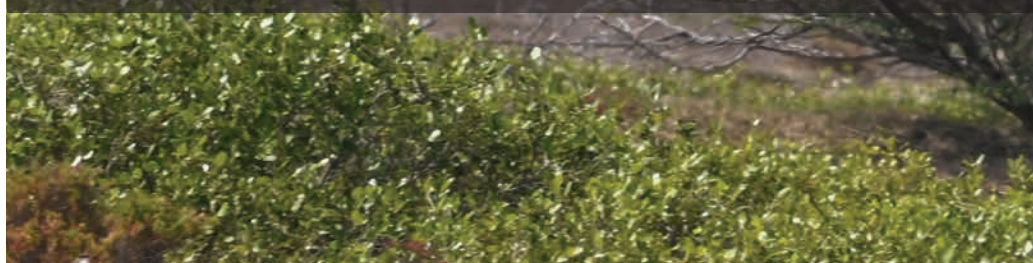
Wetlands in this category face severe ecological challenges, including significant conversion to non-wetland uses, poor water quality (low BOD compliance), high invasive species coverage, and declining biodiversity. Governance is largely absent, with no management plans, updated maps, or legal notification. Immediate and comprehensive conservation interventions are required to restore these wetlands.





THREATS

The primary threat to the Ambuliyar River Mouth Wetland is the encroachment of invasive species, which disturb the natural ecosystem and biodiversity. These species compete with native plants and animals, resulting in a disruption of the ecological balance.





51 LONGWOOD SHOLA WETLAND

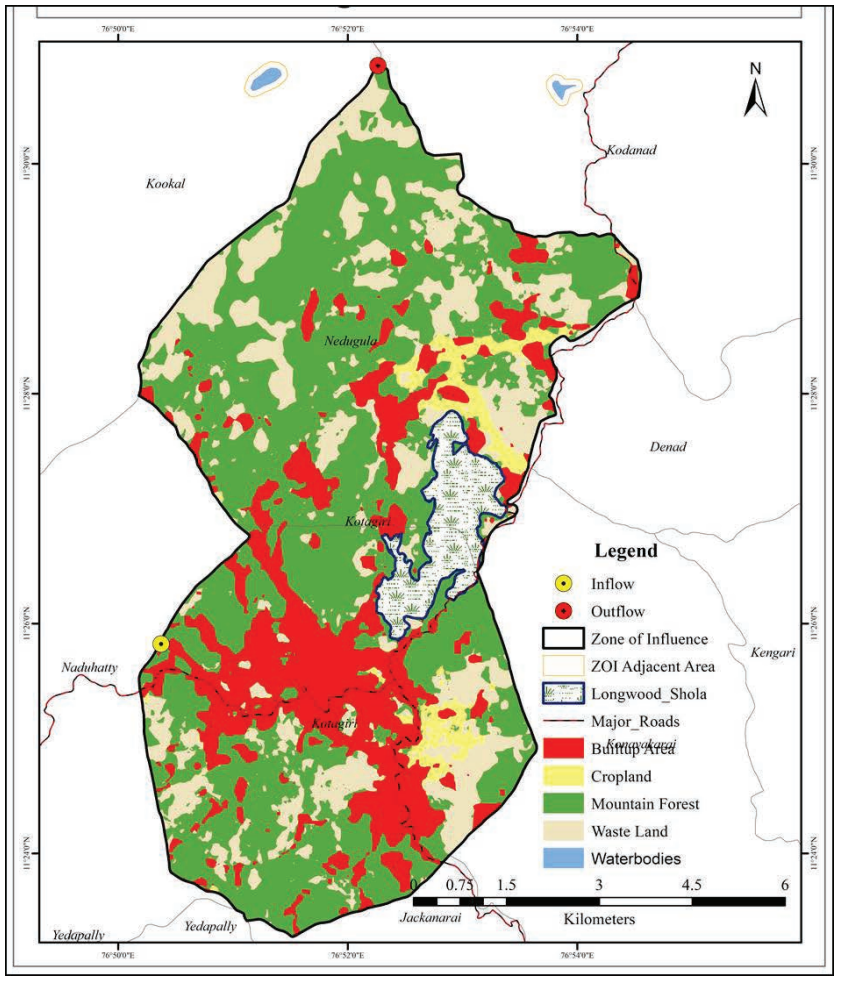
OVERVIEW AND LOCATION

The Longwood Shola Wetland, located in Kothagiri, Nilgiris, covers an area of 307.7 ha. Situated in the Nilgiris district, its geographical coordinates are 10°11'12.9" N latitude and 77°17'44.3" E longitude. The wetland falls under the jurisdiction of the Forest Department and plays a crucial role in local biodiversity and ecosystem services.

ECOSYSTEM SERVICES

The Longwood Shola Wetland in Kothagiri, Nilgiris, is home to various medicinal plants and serves as a major source of groundwater recharge. It contributes to water purification and provides an ideal habitat for migratory water birds. Additionally, it supports the life cycle of several fish and amphibian species, enhancing its ecological value..

ZONE OF INFLUENCE MAP



HEALTH ASSESSMENT AND INDICATORS OF LONGWOOD SHOLA WETLAND

S.No	Feature	Indicator	Desired Value	Actual Value	Category
1	Area	% Wetland converted to non-wetland use since 2000	0%	0%	A
2	Hydrology and Catchment	Ratio of number of natural inlets chocked and diverted to total number of natural inlets	0-0.2	0	A
		Ratio of number of natural outlets chocked and diverted to total number of natural outlets	0-0.2	0	A
		Biological Oxygen Demand (3 water samples)	3-6 mg/l	20-40% sample meet the criteria	D
3	Biodiversity	% wetland area covered by invasive macrophytes	<10%	<10%	A
		Annual waterbird count as a proportion of average count of last 5 years	Increasing	0.5-0.6	C
4	Governance	Clearly demarcated wetlands map	Wetlands map prepared and updated by SWA	Wetlands map prepared and updated by SWA	A
		Wetland Management Plan	Management plan prepared and approved by SWA	Management plan prepared and approved by SWA	A
		Wetlands notification	Wetland is notified under WPA	No regulation	E
				Health Score	C+

Date of Entry : 18/10/2024

WETLAND HEALTH

Wetlands in this category have fair ecological health, with no significant conversion to non-wetland uses and mostly intact hydrology. However, they face issues like poor water quality (low BOD compliance), moderate invasive species coverage, and declining biodiversity indicators. Governance is weak, with many wetlands lacking management plans, updated maps, or legal notification, highlighting the need for stronger conservation measures.



THREATS

The spread of invasive species in the Longwood Shola Wetland poses a significant threat to its ecological balance. Invasive species can outcompete native vegetation, alter habitat conditions, and disrupt the wetland's biodiversity, ultimately impacting the overall health and functioning of the ecosystem.



52 UDHAYAMARTHANDAPURAM BIRD SANCTUARY

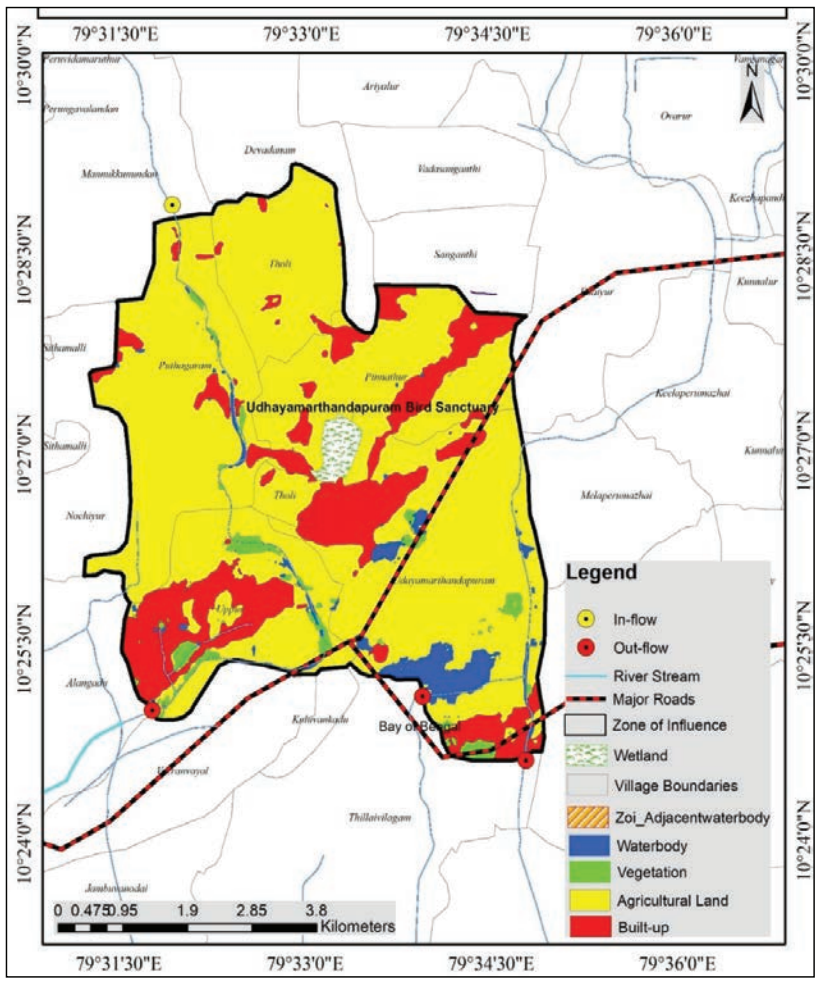
OVERVIEW AND LOCATION

The Udhayamarthandapuram Bird Sanctuary, located in Thiruvarur District, Tamil Nadu, is a vital wetland ecosystem that supports diverse avifauna. It is managed by the Forest Department. The sanctuary spans an area of 43.75 ha and lies at geographical coordinates 10˚27’02” N and 79˚33’16” E.

ECOSYSTEM SERVICES

The wetland supports agriculture by supplying water to fields when it reaches full supply level (FSL). It is a significant source of groundwater recharge and home to medicinal plants. The sanctuary is a critical site for migratory water birds and supports the life cycle of eight amphibian species. However, illegal mining activities pose a threat to the ecosystem.

ZONE OF INFLUENCE MAP



HEALTH ASSESSMENT AND INDICATORS OF UDHAYAMARTHANDAPURAM BIRD SANCTUARY

S.No	Feature	Indicator	Desired Value	Actual Value	Category
1	Area	% Wetland converted to non-wetland use since 2000	0%	6-10%	C
2	Hydrology and Catchment	Ratio of number of natural inlets chocked and diverted to total number of natural inlets	0-0.2	0	A
		Ratio of number of natural outlets chocked and diverted to total number of natural outlets	0-0.2	0	A
		Biological Oxygen Demand (3 water samples)	3-6 mg/l	Less than 20% sample meet the criteria	E
3	Biodiversity	% wetland area covered by invasive macrophytes	<10%	<10%	A
		Annual waterbird count as a proportion of average count of last 5 years	Increasing	0.6-0.7	B
4	Governance	Clearly demarcated wetlands map	Wetlands map prepared and updated by SWA	Wetlands map prepared and updated by SWA	A
		Wetland Management Plan	Management plan prepared and approved by SWA	Management plan prepared and approved by SWA	A
		Wetlands notification	Wetland is notified under WPA	No regulation	E
				Health Score	C

Date of Entry : 18/10/2024

WETLAND HEALTH

Wetlands in this range show poor ecological health, with some conversion to non-wetland uses, declining waterbird counts, and significant issues with water quality (low BOD compliance). Invasive species coverage is moderate to high, and governance is weak, with most wetlands lacking management plans, updated maps, or legal notification. Urgent conservation efforts are needed to address these challenges.



THREATS

The wetland faces pollution from household sewage discharge, which is a significant threat to its health. Illegal mining activities are also present, with visible traces of mining in the area. Additionally, the spread of invasive species further threatens the ecological balance of the wetland.



53 VADUVUR BIRDS SANCTUARY

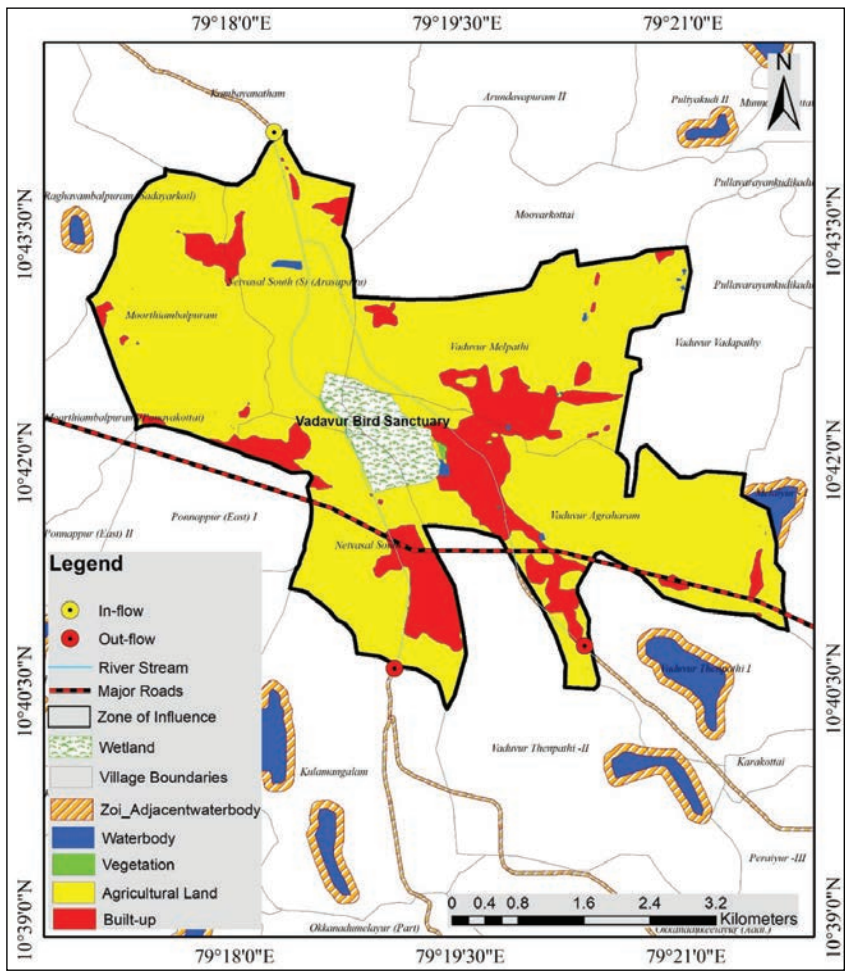
OVERVIEW AND LOCATION

The Vaduvur Birds Sanctuary Wetland, also known as Vaduvoor Lake, is located in Needamangalam, within the Thiruvarur district of Tamil Nadu. It is under the jurisdiction of the Forest Department. The wetland covers an area of 112.58 hectares and is significant for its ecological value. The geographical coordinates of this wetland are approximately 10˚42’10” N latitude and 79˚18’59” E longitude.

ECOSYSTEM SERVICES

The Vaduvur Birds Sanctuary Wetland plays a significant role in various ecosystem services. Water drawn from its outflow supports agricultural activities. The wetland is home to medicinal plants and serves as a recreational site, attracting nature enthusiasts and birdwatchers. It acts as a major source of groundwater recharge, while also functioning as a sink for sediments due to substantial water flow from the surrounding watershed. The presence of a temple around the embankment adds cultural and religious significance. It provides a suitable site for the high congregation of migratory water birds and supports the life cycle of eight amphibian species.

ZONE OF INFLUENCE MAP



HEALTH ASSESSMENT AND INDICATORS OF VADUVUR BIRDS SANCTUARY

S.No	Feature	Indicator	Desired Value	Actual Value	Category
1	Area	% Wetland converted to non-wetland use since 2000	0%	1-5%	B
2	Hydrology and Catchment	Ratio of number of natural inlets chocked and diverted to total number of natural inlets	0-0.2	0	A
		Ratio of number of natural outlets chocked and diverted to total number of natural outlets	0-0.2	0	A
		Biological Oxygen Demand (3 water samples)	3-6 mg/l	Less than 20% sample meet the criteria	E
3	Biodiversity	% wetland area covered by invasive macrophytes	<10%	<10%	A
		Annual waterbird count as a proportion of average count of last 5 years	Increasing	0.6-0.7	B
4	Governance	Clearly demarcated wetlands map	Wetlands map prepared and updated by SWA	Wetlands map prepared and updated by SWA	A
		Wetland Management Plan	Management plan prepared and approved by SWA	Management plan prepared and approved by SWA	A
		Wetlands notification	Wetland is notified under WPA	No regulation	E
				Health Score	C+

Date of Entry : 18/10/2024

WETLAND HEALTH

Wetlands in this category have fair ecological health, with no significant conversion to non-wetland uses and mostly intact hydrology. However, they face issues like poor water quality (low BOD compliance), moderate invasive species coverage, and declining biodiversity indicators. Governance is weak, with many wetlands lacking management plans, updated maps, or legal notification, highlighting the need for stronger conservation measures.





THREATS

The Vaduvur Birds Sanctuary Wetland faces challenges such as siltation due to substantial water flow from the surrounding watershed, which leads to sediment accumulation. Additionally, the spread of invasive species threatens the native biodiversity, potentially disrupting the wetland's ecosystem and its various services.



54 MELPUTHUKUDI SUNAI

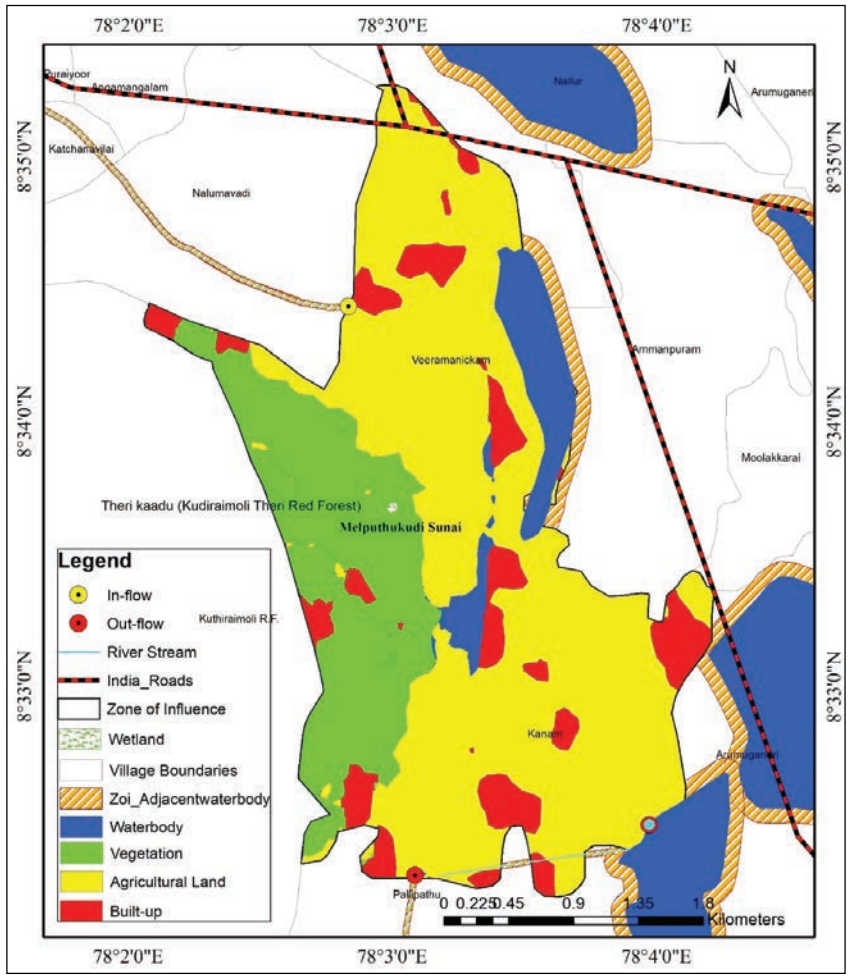
OVERVIEW AND LOCATION

Melpudhukudi Sunai is located in Viramanikkam, Tiruchendhur, within the Thoothukudi district of Tamil Nadu. The wetland covers an area of 0.41 ha and is situated at coordinates 8˚33’39.3048” N latitude and 78˚3’2.4516” E longitude. The Forest Department has jurisdiction over this wetland complex.

ECOSYSTEM SERVICES

The Melpudhukudi Sunai Wetland, located in Viramanikkam, Thoothukudi, Tamil Nadu, provides various ecosystem services. It serves as a source of water for agriculture, especially when the wetland reaches full supply level. It also contributes to groundwater recharge and acts as a sink for sediments due to significant runoff from the surrounding catchment area. The wetland is culturally important, with a temple situated on its bund, and attracts recreational visitors. It supports a high congregation of migratory water birds and provides a habitat for around eight species of amphibians, enhancing biodiversity.

ZONE OF INFLUENCE MAP



HEALTH ASSESSMENT AND INDICATORS OF MELPUTHUKUDI SUNAI

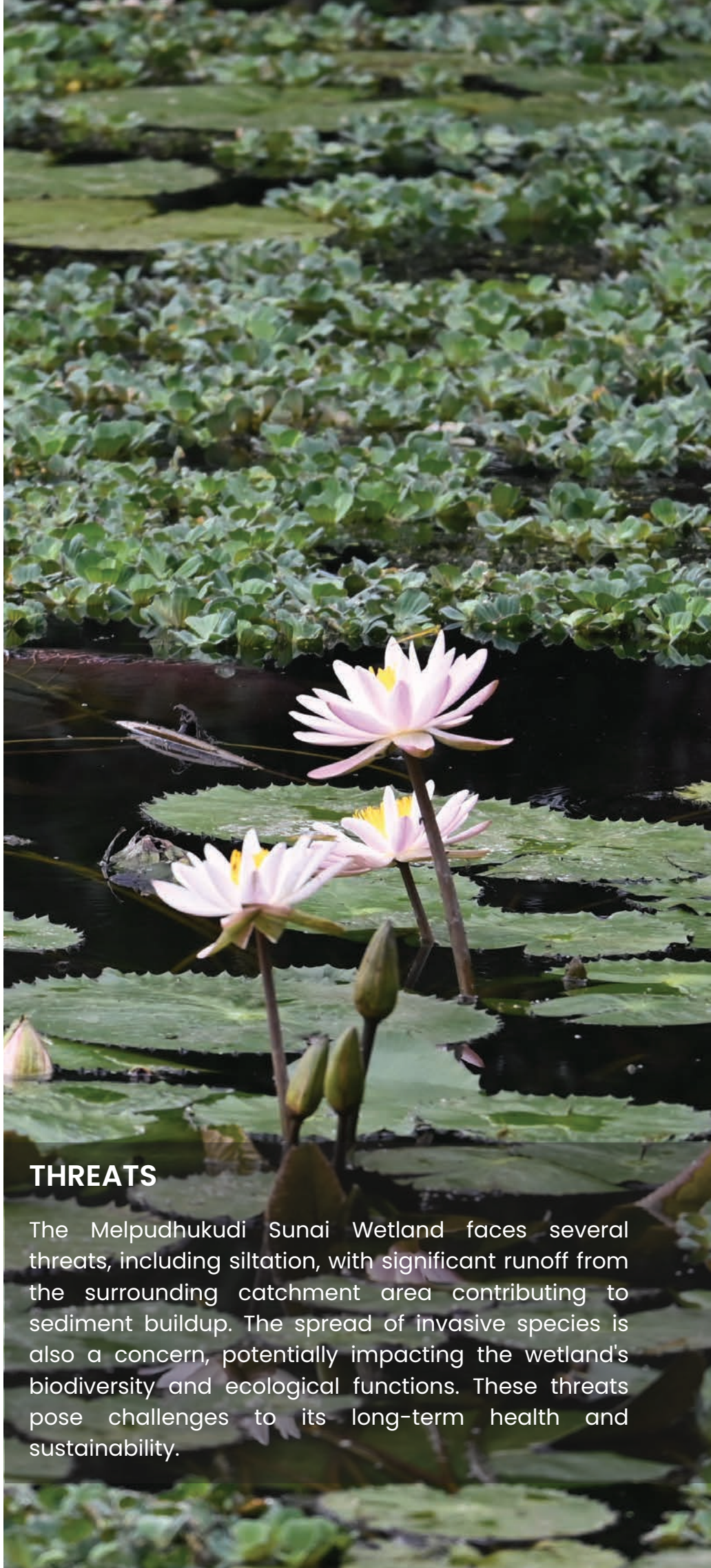
S.No	Feature	Indicator	Desired Value	Actual Value	Category
1	Area	% Wetland converted to non-wetland use since 2000	0%	0%	A
2	Hydrology and Catchment	Ratio of number of natural inlets chocked and diverted to total number of natural inlets	0-0.2	0	A
		Ratio of number of natural outlets chocked and diverted to total number of natural outlets	0-0.2	0	A
		Biological Oxygen Demand (3 water samples)	3-6 mg/l	Less than 20% sample meet the criteria	E
3	Biodiversity	% wetland area covered by invasive macrophytes	<10%	<10%	A
		Annual waterbird count as a proportion of average count of last 5 years	Increasing	0.5-0.6	C
4	Governance	Clearly demarcated wetlands map	Wetlands map prepared and updated by SWA	Wetland map prepared but not placed under SWA	C
		Wetland Management Plan	Management plan prepared and approved by SWA	No Management plan	E
		Wetlands notification	Wetland is notified under WPA	No regulation	E
				Health Score	D

Date of Entry : 18/10/2024

WETLAND HEALTH

Wetlands in this category face severe ecological challenges, including significant conversion to non-wetland uses, poor water quality (low BOD compliance), high invasive species coverage, and declining biodiversity. Governance is largely absent, with no management plans, updated maps, or legal notification. Immediate and comprehensive conservation interventions are required to restore these wetlands.





THREATS

The Melpudhukudi Sunai Wetland faces several threats, including siltation, with significant runoff from the surrounding catchment area contributing to sediment buildup. The spread of invasive species is also a concern, potentially impacting the wetland's biodiversity and ecological functions. These threats pose challenges to its long-term health and sustainability.



55 THIRUPANI CHETTIKULAM

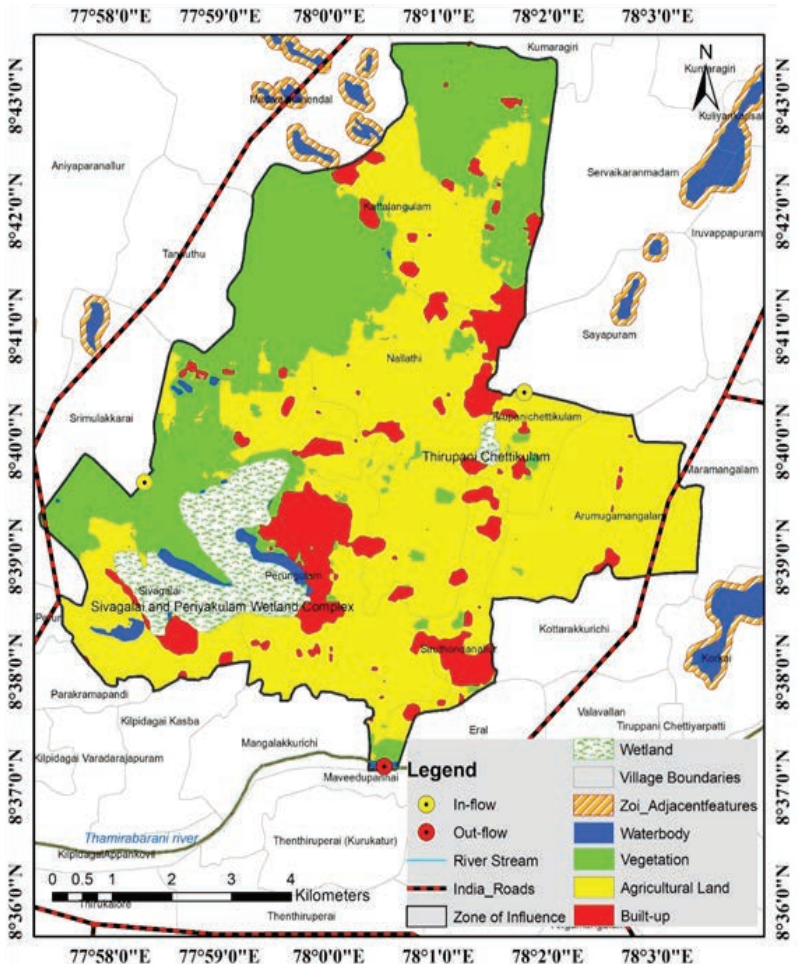
OVERVIEW AND LOCATION

The Thirupani Chettikulam Wetland is located in the Thirupani Chettikulam and Srivaikuntam areas in the Thoothukudi district of Tamil Nadu. The wetland is under the jurisdiction of the Forest Department and covers an area of 20.13 ha. The geographical coordinates of the wetland are 8˚40’2.4924” N latitude and 78˚1’29.9928” E longitude.

ECOSYSTEM SERVICES

The Thirupani Chettikulam Wetland provides several essential ecosystem services. It serves as a source of water for agriculture, contributes to groundwater recharge, and acts as a sink for sediments due to significant runoff from the surrounding catchment area. It supports medicinal plants, provides a site for migratory birds, and sustains the life cycle of various amphibians.

ZONE OF INFLUENCE MAP



HEALTH ASSESSMENT AND INDICATORS OF THIRUPANI CHETTIKULAM

S.No	Feature	Indicator	Desired Value	Actual Value	Category
1	Area	% Wetland converted to non-wetland use since 2000	0%	0%	A
2	Hydrology and Catchment	Ratio of number of natural inlets chocked and diverted to total number of natural inlets	0-0.2	0	A
		Ratio of number of natural outlets chocked and diverted to total number of natural outlets	0-0.2	0	A
		Biological Oxygen Demand (3 water samples)	3-6 mg/l	Less than 20% sample meet the criteria	E
3	Biodiversity	% wetland area covered by invasive macrophytes	<10%	<10%	A
		Annual waterbird count as a proportion of average count of last 5 years	Increasing	0.5-0.6	C
4	Governance	Clearly demarcated wetlands map	Wetlands map prepared and updated by SWA	Wetland map prepared but not placed under SWA	C
		Wetland Management Plan	Management plan prepared and approved by SWA	No Management plan	E
		Wetlands notification	Wetland is notified under WPA	No regulation	E
				Health Score	D

Date of Entry : 18/10/2024

WETLAND HEALTH

Wetlands in this category face severe ecological challenges, including significant conversion to non-wetland uses, poor water quality (low BOD compliance), high invasive species coverage, and declining biodiversity. Governance is largely absent, with no management plans, updated maps, or legal notification. Immediate and comprehensive conservation interventions are required to restore these wetlands.



THREATS

The Thirupani Chettikulam Wetland faces threats such as siltation, with substantial water flow from the surrounding watershed contributing to this issue. The spread of invasive species is also a concern, with the potential for further



56 KEELPULIYANKULAM WETLAND

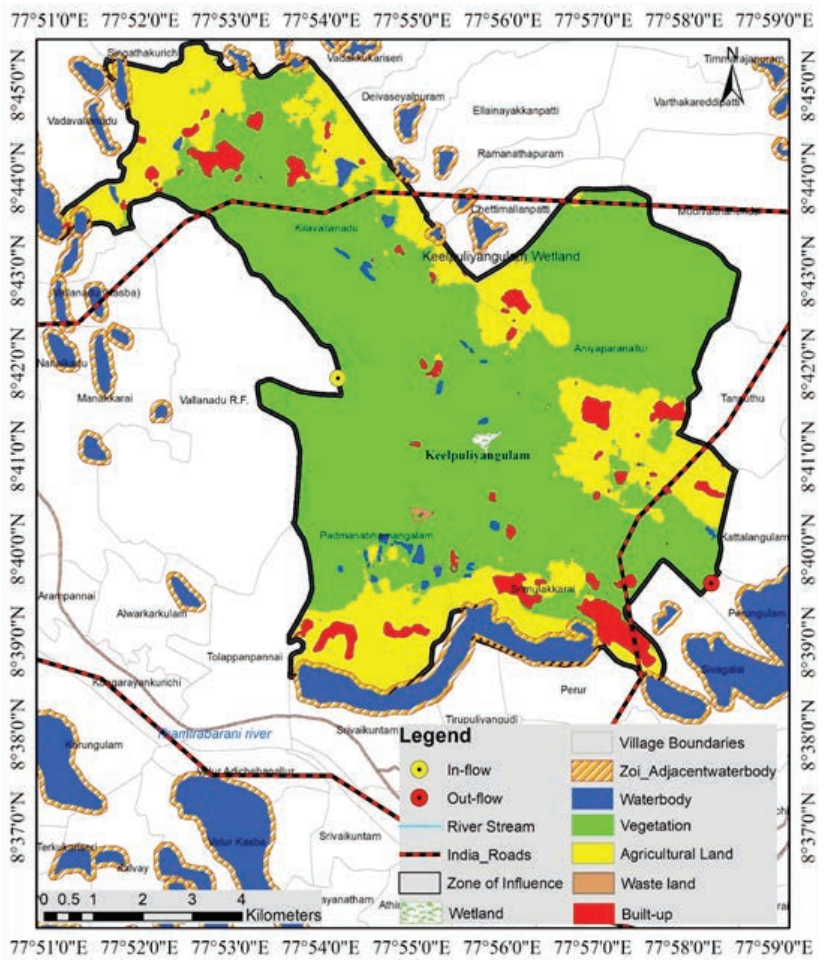
OVERVIEW AND LOCATION

Keelpuliyankulam Wetland, situated in the villages of Srimulakkarai and Srivaikuntam in Thoothukudi district, Tamil Nadu, spans an area of 16.12 hectares. It is managed by the Forest Department and lies at a geographical coordinate of 8˚40’2.4924” N latitude and 78˚1’29.9928” E longitude, forming an important ecological site in the region.

ECOSYSTEM SERVICES

Keelpuliyankulam Wetland provides several ecosystem services. Water is drawn from the outlet to support agricultural activities, while the wetland acts as a major source of groundwater recharge and a sink for sediments due to significant runoff. It holds cultural significance with a temple on its bund and is an important site for migratory birds. The wetland also supports the life cycle of various amphibians and has traces of mining activity.

ZONE OF INFLUENCE MAP



HEALTH ASSESSMENT AND INDICATORS OF KEELPULIYANKULAM WETLAND

S.No	Feature	Indicator	Desired Value	Actual Value	Category
1	Area	% Wetland converted to non-wetland use since 2000	0%	0%	A
2	Hydrology and Catchment	Ratio of number of natural inlets chocked and diverted to total number of natural inlets	0-0.2	0	A
		Ratio of number of natural outlets chocked and diverted to total number of natural outlets	0-0.2	0	A
		Biological Oxygen Demand (3 water samples)	3-6 mg/l	Less than 20% sample meet the criteria	E
3	Biodiversity	% wetland area covered by invasive macrophytes	<10%	<10%	A
		Annual waterbird count as a proportion of average count of last 5 years	Increasing	0.5-0.6	C
4	Governance	Clearly demarcated wetlands map	Wetlands map prepared and updated by SWA	Wetland map prepared but not placed under SWA	C
		Wetland Management Plan	Management plan prepared and approved by SWA	No Management plan	E
		Wetlands notification	Wetland is notified under WPA	No regulation	E
				Health Score	D

Date of Entry : 18/10/2024

WETLAND HEALTH

Wetlands in this category face severe ecological challenges, including significant conversion to non-wetland uses, poor water quality (low BOD compliance), high invasive species coverage, and declining biodiversity. Governance is largely absent, with no management plans, updated maps, or legal notification. Immediate and comprehensive conservation interventions are required to restore these wetlands.





THREATS

The threats to Keelpuliyankulam Wetland include the potential for mining, as traces were observed during field visits. Siltation is present due to significant runoff from the surrounding catchment area. The spread of invasive species is also noted. Additionally, noise pollution from nearby quarries poses a threat to the wetland's biodiversity.





57 PUNNAKAYAL AND PALAYAKAYAL COMPLEX WETLAND

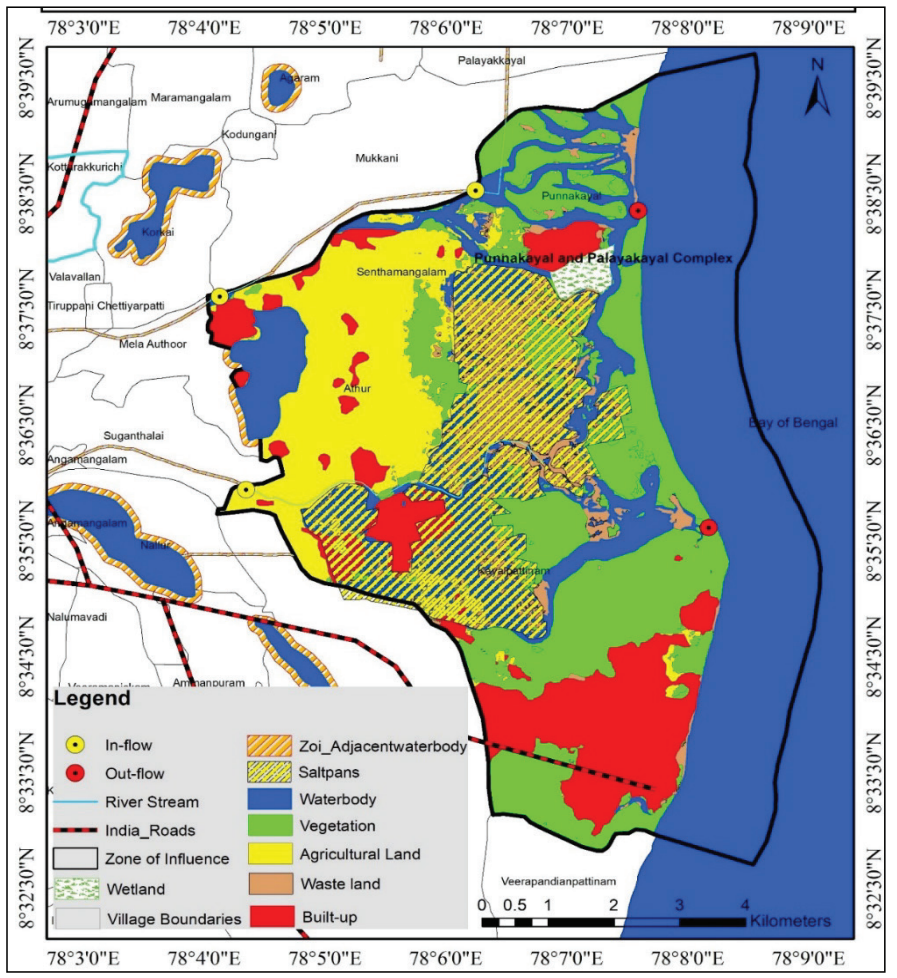
OVERVIEW AND LOCATION

The Punnakayal and Palayakayal Complex Wetland, located in the Srivaikuntam region of Thoothukudi district, Tamil Nadu, spans 49.01 hectares. Its geographical coordinates are 8˚40’2.4924” N latitude and 78˚1’29.9928” E longitude. The wetland complex falls under the jurisdiction of the Forest Department and plays a crucial role in the local ecosystem.

ECOSYSTEM SERVICES

The Punnakayal and Palayakayal Complex Wetland supports various ecosystem services, including communal fisheries, medicinal plants, and groundwater recharge. Mangroves act as buffering agents against floods and storms, while also playing a role in carbon sequestration. The wetland hosts a church, migratory birds, and 9 amphibian species, alongside aquaculture plants and saltpans observed during ground-truthing.

ZONE OF INFLUENCE MAP



HEALTH ASSESSMENT AND INDICATORS OF PUNNAKAYAL AND PALAYAKAYAL COMPLEX WETLAND

S.No	Feature	Indicator	Desired Value	Actual Value	Category
1	Area	% Wetland converted to non-wetland use since 2000	0%	More than 20%	E
2	Hydrology and Catchment	Ratio of number of natural inlets chocked and diverted to total number of natural inlets	0-0.2	0	A
		Ratio of number of natural outlets chocked and diverted to total number of natural outlets	0-0.2	0	A
		Biological Oxygen Demand (3 water samples)	3-6 mg/l	Less than 20% sample meet the criteria	E
3	Biodiversity	% wetland area covered by invasive macrophytes	<10%	21-30%	C
		Annual waterbird count as a proportion of average count of last 5 years	Increasing	0.5-0.6	C
4	Governance	Clearly demarcated wetlands map	Wetlands map prepared and updated by SWA	Wetland map prepared but not placed under SWA	C
		Wetland Management Plan	Management plan prepared and approved by SWA	No Management plan	E
		Wetlands notification	Wetland is notified under WPA	No regulation	E
				Health Score	E

Date of Entry : 18/10/2024

WETLAND HEALTH

Wetlands in this range are in critical condition, with extensive conversion to non-wetland uses, very poor water quality (low BOD compliance), high invasive species coverage, and severely declining biodiversity. Governance is almost non-existent, with no management plans, updated maps, or legal notification. These wetlands require urgent and large-scale restoration efforts to prevent further degradation.



THREATS

The spread of invasive species in the Punnakayal and Palayakayal Complex Wetland is currently present, with potential for further spread. These species could negatively impact the native biodiversity and the ecological health of the wetland, threatening its capacity to support various flora and fauna.



58 SIVAGALAI AND PERIYAKULAM WETLAND COMPLEX

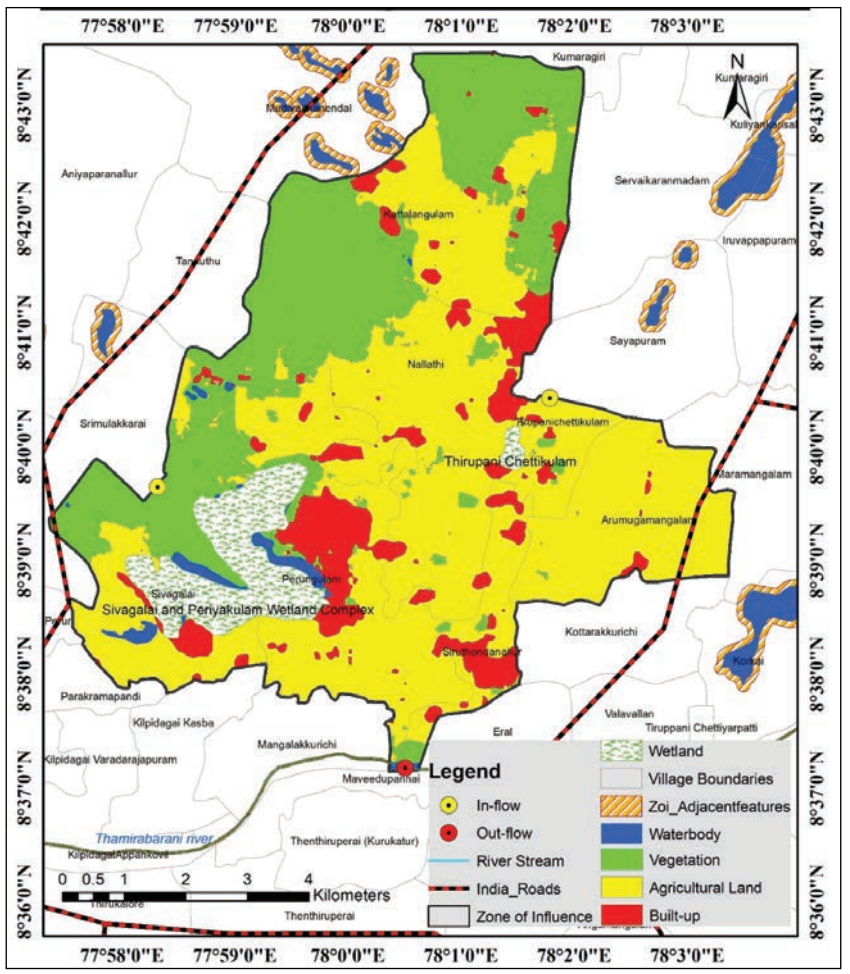
OVERVIEW AND LOCATION

The Sivagalai & Periyakulam Wetland Complex, located in Thoothukudi district, Tamil Nadu, spans an area of 427.07 hectares. It is situated in the villages of Sevalai, Sivagalai, and Srivaikuntam, with geographical coordinates of 8°38’50.0136” N and 77°58’40.3752” E. The Forest Department is the governing authority over this wetland complex.

ECOSYSTEM SERVICES

The Sivagalai & Periyakulam Wetland Complex provides various ecosystem services. Water from its outflow is used for agricultural activities, and subsistence fishing takes place within the wetland. It is a major source of groundwater recharge and acts as a sink for sediments, with significant runoff from the surrounding catchment area. The wetland holds cultural and religious significance, with several temples around the bund, and supports a high congregation of migratory water birds. Additionally, it supports the life cycle of around 8 varieties of amphibians.

ZONE OF INFLUENCE MAP



HEALTH ASSESSMENT AND INDICATORS OF SIVAGALAI & PERIYAKULAM WETLAND COMPLEX

S.No	Feature	Indicator	Desired Value	Actual Value	Category
1	Area	% Wetland converted to non-wetland use since 2000	0%	0%	A
2	Hydrology and Catchment	Ratio of number of natural inlets chocked and diverted to total number of natural inlets	0-0.2	0	A
		Ratio of number of natural outlets chocked and diverted to total number of natural outlets	0-0.2	0	A
		Biological Oxygen Demand (3 water samples)	3-6 mg/l	Less than 20% sample meet the criteria	E
3	Biodiversity	% wetland area covered by invasive macrophytes	<10%	21-30%	C
		Annual waterbird count as a proportion of average count of last 5 years	Increasing	0.5-0.6	C
4	Governance	Clearly demarcated wetlands map	Wetlands map prepared and updated by SWA	Wetland map prepared but not placed under SWA	C
		Wetland Management Plan	Management plan prepared and approved by SWA	No Management plan	E
		Wetlands notification	Wetland is notified under WPA	No regulation	E
				Health Score	E

Date of Entry : 18/10/2024

Date of Entry : 18/10/2024

WETLAND HEALTH

Wetlands in this range are in critical condition, with extensive conversion to non-wetland uses, very poor water quality (low BOD compliance), high invasive species coverage, and severely declining biodiversity. Governance is almost non-existent, with no management plans, updated maps, or legal notification. These wetlands require urgent and large-scale restoration efforts to prevent further degradation.





THREATS

The Sivagalai & Periyakulam Wetland Complex faces several environmental challenges. Pollution is present due to the dumping of municipal solid waste around the bund. Siltation is also an issue, with substantial water flow from the surrounding watershed contributing to sediment deposition. Additionally, the spread of invasive species is present and has the potential to disrupt the ecosystem.



59 KOONTHANKULAM BIRD SANCTUARY

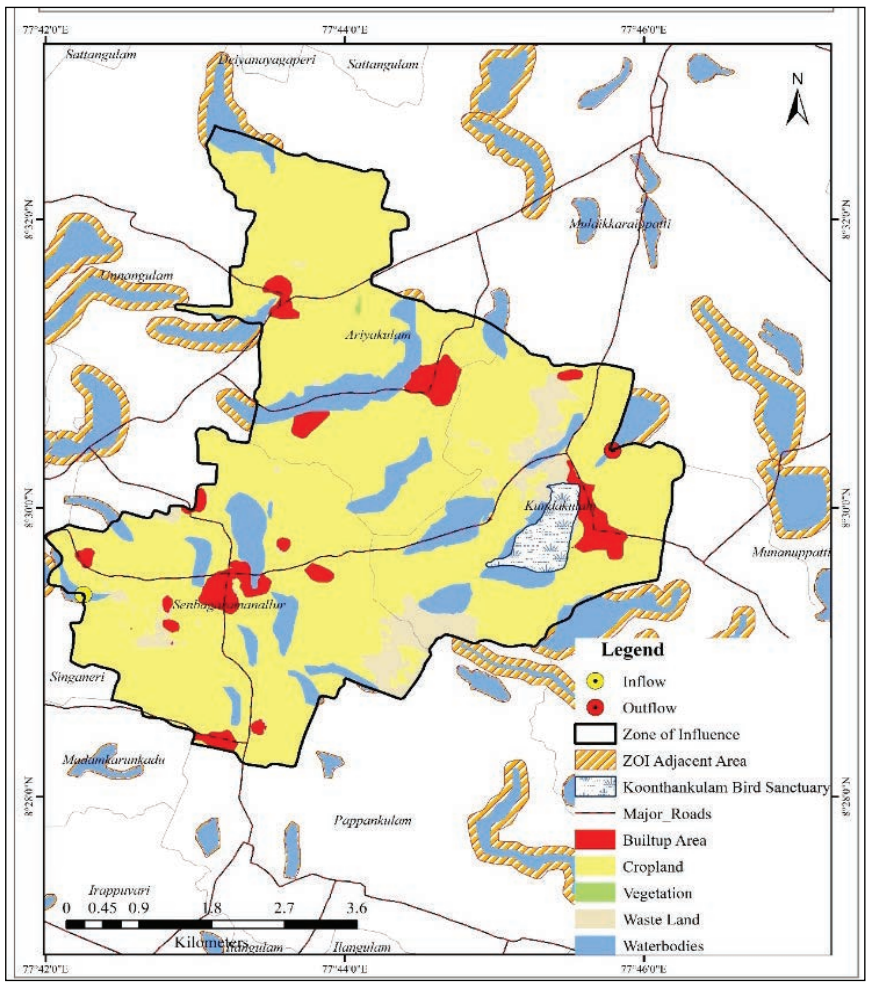
OVERVIEW AND LOCATION

The Koonthankulam Bird Sanctuary is located in the Tirunelveli district of Tamil Nadu, in the villages of Kadankulam-Thirumangalam, Nanguneri. The sanctuary covers an area of 61.04 ha and is categorized as an inland wetland. The geographical coordinates are 8°29'45.8874" N latitude and 77°45'19.2954" E longitude.

ECOSYSTEM SERVICES

The Koonthankulam Bird Sanctuary supports multiple ecosystem services. It serves as a source of water for agriculture when it reaches its Full Supply Level (FSL). The wetland also supports medicinal plants, acts as a recreational site for birdwatching, and provides a suitable site for the congregation of migratory birds. Additionally, it supports the life cycle of various amphibians, with eight species observed. The sanctuary is also a sink for sediments, and surrounding temples add to its cultural and religious significance.

ZONE OF INFLUENCE MAP



HEALTH ASSESSMENT AND INDICATORS OF KOONTHANKULAM BIRD SANCTUARY

S.No	Feature	Indicator	Desired Value	Actual Value	Category
1	Area	% Wetland converted to non-wetland use since 2000	0%	6-10%	C
2	Hydrology and Catchment	Ratio of number of natural inlets chocked and diverted to total number of natural inlets	0-0.2	0	A
		Ratio of number of natural outlets chocked and diverted to total number of natural outlets	0-0.2	0	A
		Biological Oxygen Demand (3 water samples)	3-6 mg/l	Less than 20% sample meet the criteria	E
3	Biodiversity	% wetland area covered by invasive macrophytes	<10%	<10%	A
		Annual waterbird count as a proportion of average count of last 5 years	Increasing	0.6-0.7	B
4	Governance	Clearly demarcated wetlands map	Wetlands map prepared and updated by SWA	Wetlands map prepared and updated by SWA	A
		Wetland Management Plan	Management plan prepared and approved by SWA	Management plan prepared and approved by SWA	A
		Wetlands notification	Wetland is notified under WPA	No regulation	E
				Health Score	C+

Date of Entry : 18/10/2024

WETLAND HEALTH

Wetlands in this category have fair ecological health, with no significant conversion to non-wetland uses and mostly intact hydrology. However, they face issues like poor water quality (low BOD compliance), moderate invasive species coverage, and declining biodiversity indicators. Governance is weak, with many wetlands lacking management plans, updated maps, or legal notification, highlighting the need for stronger conservation measures.

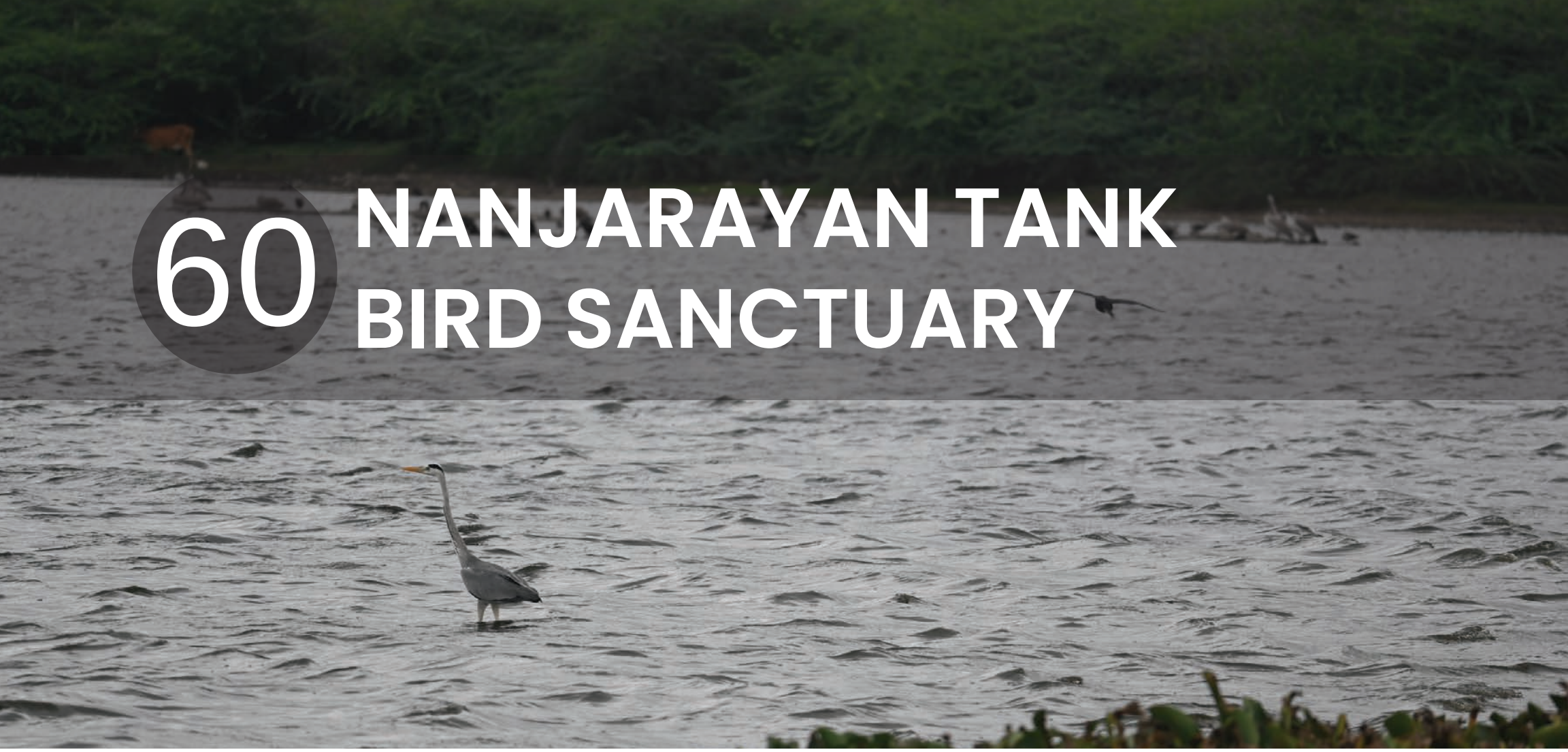




THREATS

Siltation in the Koonthankulam Bird Sanctuary is present, with substantial water flow from the surrounding watershed contributing to this. The spread of invasive species is also present, with potential for further spread. These factors can impact the ecosystem health and biodiversity of the sanctuary, especially if not managed appropriately.





60 NANJARAYAN TANK BIRD SANCTUARY

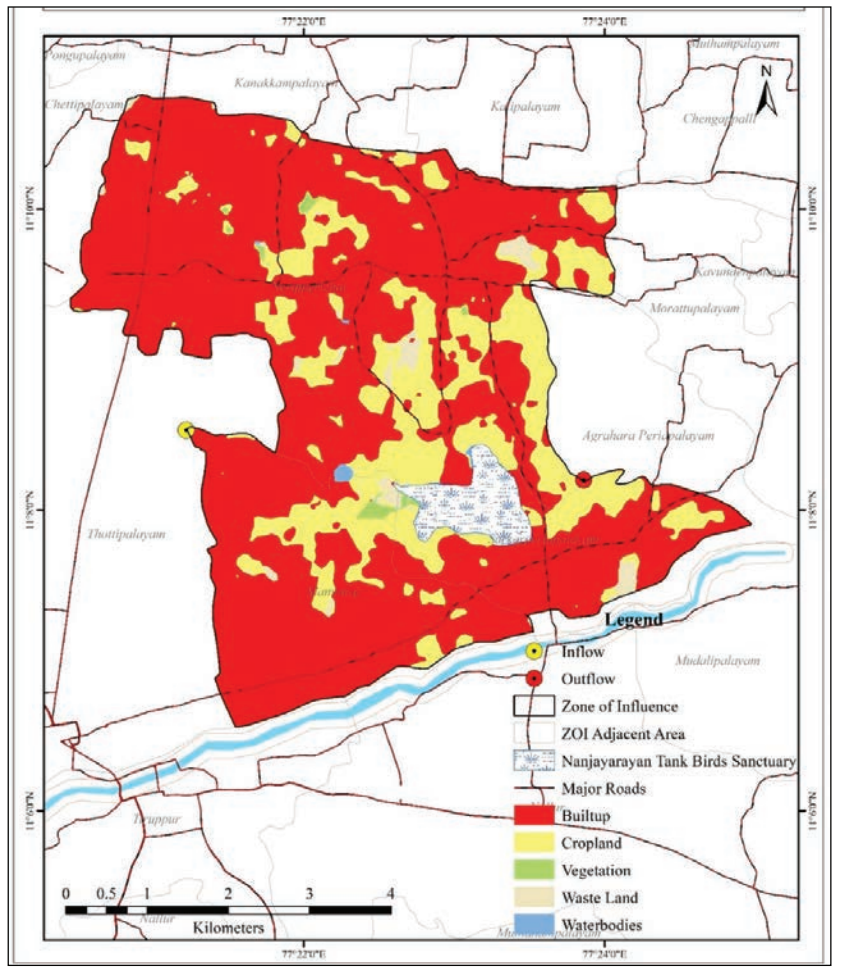
OVERVIEW AND LOCATION

The Nanjarayan Tank Bird Sanctuary, also known as the Sarkar Periyapalayam Reservoir, is located in the Tiruppur district of Tamil Nadu. The geographical coordinates are 11°8'2.6196" N latitude and 77°23'17.736" E longitude. The wetland spans an area of 103.66 hectares and is under the jurisdiction of the Forest Department. This sanctuary plays an important role in supporting local biodiversity and ecosystem functions.

ECOSYSTEM SERVICES

The Nanjarayan Tank Bird Sanctuary is utilized for agricultural activities, with water drawn from its outflow. It supports medicinal plants and acts as a major source of groundwater recharge. The wetland also functions as a sink for sediments, with substantial water flow from the surrounding watershed. Additionally, it provides a suitable site for high congregation of migratory water birds and supports the life cycle of fish and amphibians, with almost 9 varieties of amphibians surviving in the area.

ZONE OF INFLUENCE MAP



HEALTH ASSESSMENT AND INDICATORS OF NANJARAYAN TANK BIRD SANCTUARY

S.No	Feature	Indicator	Desired Value	Actual Value	Category
1	Area	% Wetland converted to non-wetland use since 2000	0%	11-20%	D
2	Hydrology and Catchment	Ratio of number of natural inlets chocked and diverted to total number of natural inlets	0-0.2	0	A
		Ratio of number of natural outlets chocked and diverted to total number of natural outlets	0-0.2	0	A
		Biological Oxygen Demand (3 water samples)	3-6 mg/l	Less than 20% sample meet the criteria	E
3	Biodiversity	% wetland area covered by invasive macrophytes	<10%	11-20%	B
		Annual waterbird count as a proportion of average count of last 5 years	Increasing	0.6-0.7	B
4	Governance	Clearly demarcated wetlands map	Wetlands map prepared and updated by SWA	Wetlands map prepared and updated by SWA	A
		Wetland Management Plan	Management plan prepared and approved by SWA	Management plan prepared and approved by SWA	A
		Wetlands notification	Wetland is notified under WPA	No regulation	E
				Health Score	C

Date of Entry : 18/10/2024

Date of Entry : 18/10/2024

WETLAND HEALTH

Wetlands in this range show poor ecological health, with some conversion to non-wetland uses, declining waterbird counts, and significant issues with water quality (low BOD compliance). Invasive species coverage is moderate to high, and governance is weak, with most wetlands lacking management plans, updated maps, or legal notification. Urgent conservation efforts are needed to address these challenges.





THREATS

The Nanjarayan Tank Bird Sanctuary faces potential pollution due to unauthorized sewage disposal. Siltation is present, with substantial water flow from the surrounding watershed contributing to this issue. The spread of invasive species is a potential threat, with current signs of presence.



61 ENNORE CREEK

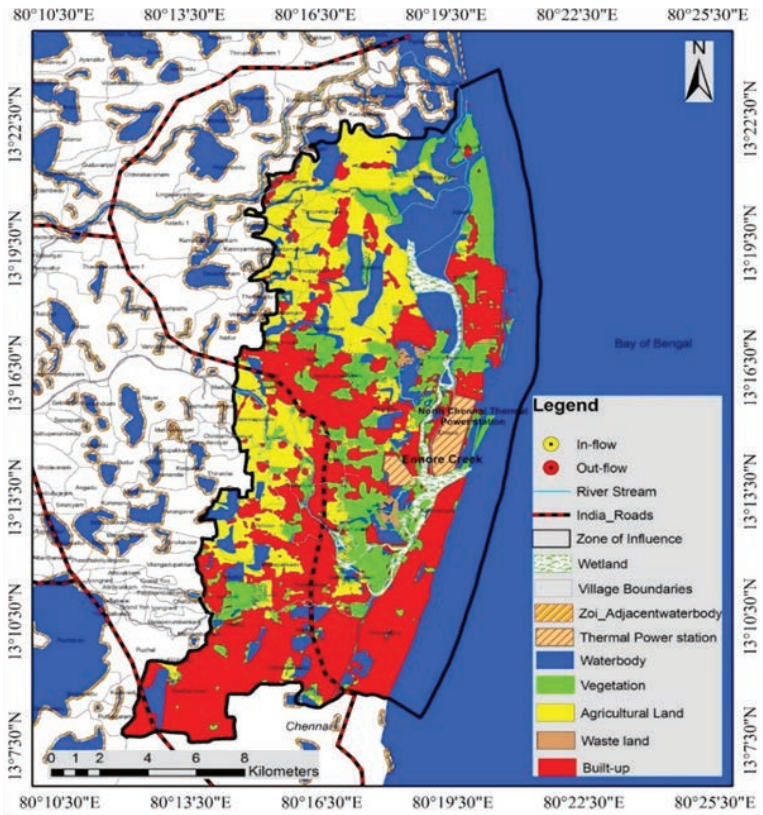
OVERVIEW AND LOCATION

Ennore Creek, located in Tiruvallur district, Tamil Nadu, covers an area of 766.24 ha. It is managed by the Forest Department. The wetland, situated in the villages of Ennore and Madhavaram, lies at coordinates 13°13’57.49” N latitude and 80°19’34.37” E longitude. This wetland plays a significant role in local ecology and hydrology.

ECOSYSTEM SERVICES

Ennore Creek supports communal fishing activities and is home to medicinal plants. The mangroves in the area act as a buffering agent from extreme events like floods and storms. The wetland is a site for the congregation of migratory water birds and supports the life cycle of fish and amphibians, with nearly 9 amphibian species. Additionally, the mangroves play a crucial role in carbon sequestration.

ZONE OF INFLUENCE MAP



HEALTH ASSESSMENT AND INDICATORS OF ENNORE CREEK

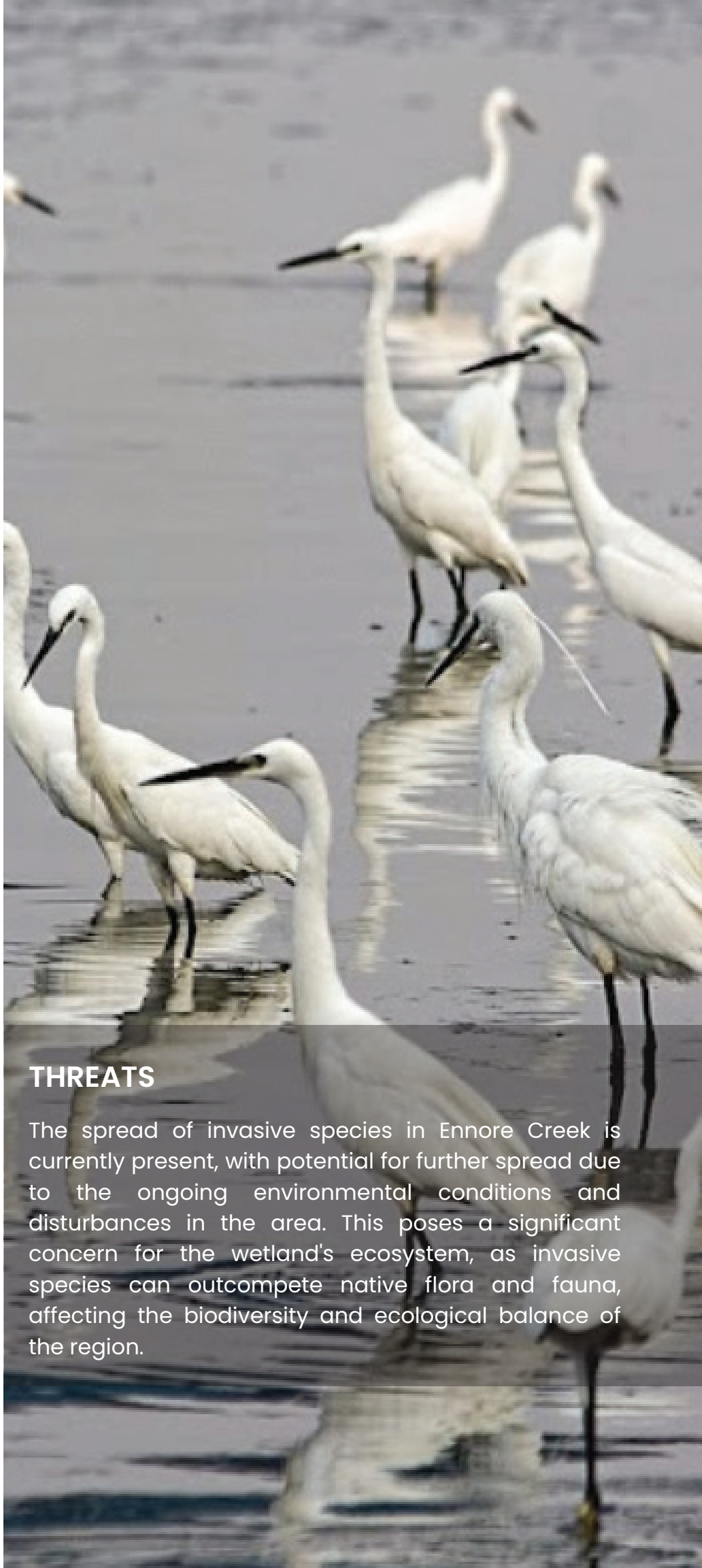
S.No	Feature	Indicator	Desired Value	Actual Value	Category
1	Area	% Wetland converted to non-wetland use since 2000	0%	More than 20%	E
2	Hydrology and Catchment	Ratio of number of natural inlets chocked and diverted to total number of natural inlets	0-0.2	0	A
		Ratio of number of natural outlets chocked and diverted to total number of natural outlets	0-0.2	0	A
		Biological Oxygen Demand (3 water samples)	3-6 mg/l	Less than 20% sample meet the criteria	E
3	Biodiversity	% wetland area covered by invasive macrophytes	<10%	21-30%	C
		Annual waterbird count as a proportion of average count of last 5 years	Increasing	0.5-0.6	C
4	Governance	Clearly demarcated wetlands map	Wetlands map prepared and updated by SWA	Wetland map prepared but not placed under SWA	C
		Wetland Management Plan	Management plan prepared and approved by SWA	No Management plan	E
		Wetlands notification	Wetland is notified under WPA	No regulation	E
				Health Score	E

Date of Entry : 18/10/2024

WETLAND HEALTH

Wetlands in this range are in critical condition, with extensive conversion to non-wetland uses, very poor water quality (low BOD compliance), high invasive species coverage, and severely declining biodiversity. Governance is almost non-existent, with no management plans, updated maps, or legal notification. These wetlands require urgent and large-scale restoration efforts to prevent further degradation.





THREATS

The spread of invasive species in Ennore Creek is currently present, with potential for further spread due to the ongoing environmental conditions and disturbances in the area. This poses a significant concern for the wetland's ecosystem, as invasive species can outcompete native flora and fauna, affecting the biodiversity and ecological balance of the region.



62 ODIYUR LAGOON

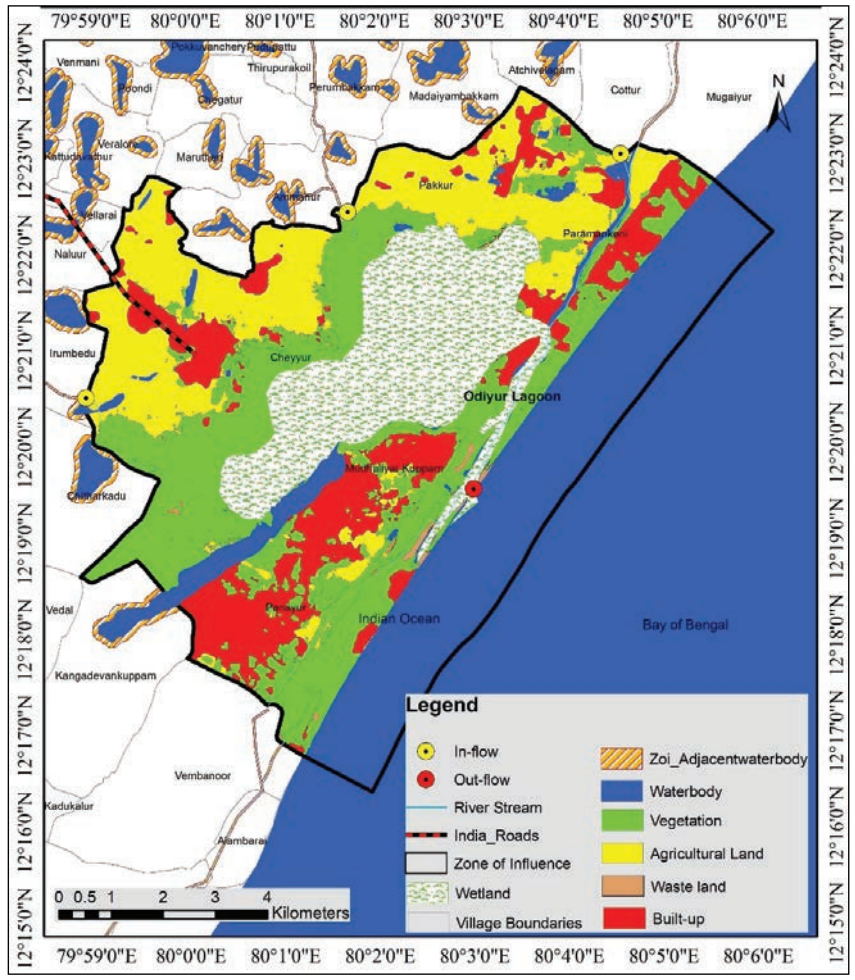
OVERVIEW AND LOCATION

Odiyur Lagoon, also known as Cheyyur Lagoon, is a significant wetland located in Cheyyur, within the Villupuram district of Tamil Nadu. It covers an area of approximately 1614.31 hectares and falls under the jurisdiction of the Forest Department. The lagoon is geographically positioned at a latitude of 12°20'55.59" N and longitude of 80°2'18.9708" E, marking it as an important natural resource in the region.

ECOSYSTEM SERVICES

The Odiyur Lagoon provides essential ecosystem services, including supporting communal fishing activities that sustain local communities. It also contains medicinal plants, contributing to the area's biodiversity. The lagoon plays a significant role in groundwater recharge, replenishing local aquifers, and it aids in water purification, improving the quality of surrounding water resources. As a key site for migratory water birds, it offers critical habitats for these species. Additionally, the lagoon supports the life cycles of fish and amphibians, with almost nine amphibian species thriving in the area. The presence of mangroves further enhances the lagoon's ecological value, as they are vital for carbon sequestration, mitigating the effects of climate change.

ZONE OF INFLUENCE MAP



HEALTH ASSESSMENT AND INDICATORS OF ODIYUR LAGOON

S.No	Feature	Indicator	Desired Value	Actual Value	Category
1	Area	% Wetland converted to non-wetland use since 2000	0%	11-20%	D
2	Hydrology and Catchment	Ratio of number of natural inlets chocked and diverted to total number of natural inlets	0-0.2	0	A
		Ratio of number of natural outlets chocked and diverted to total number of natural outlets	0-0.2	0	A
		Biological Oxygen Demand (3 water samples)	3-6 mg/l	80-100% sample meet the criteria	A
3	Biodiversity	% wetland area covered by invasive macrophytes	<10%	11-20%	B
		Annual waterbird count as a proportion of average count of last 5 years	Increasing	0.5-0.6	C
4	Governance	Clearly demarcated wetlands map	Wetlands map prepared and updated by SWA	Wetland map prepared but not placed under SWA	C
		Wetland Management Plan	Management plan prepared and approved by SWA	No Management plan	E
		Wetlands notification	Wetland is notified under WPA	No regulation	E
				Health Score	D

Date of Entry : 18/10/2024

WETLAND HEALTH

Wetlands in this category face severe ecological challenges, including significant conversion to non-wetland uses, poor water quality (low BOD compliance), high invasive species coverage, and declining biodiversity. Governance is largely absent, with no management plans, updated maps, or legal notification. Immediate and comprehensive conservation interventions are required to restore these wetlands.





THREATS

The spread of invasive species in the Odiyur Lagoon is a present concern, with potential for further expansion. Invasive species can disrupt the local ecosystem, outcompeting native plants and animals for resources, which can negatively impact the biodiversity and overall health of the wetland. It is important to monitor and manage the spread of these species to maintain the ecological balance and the lagoon's ecosystem services.



63 YEDAYANTHITTU ESTUARY

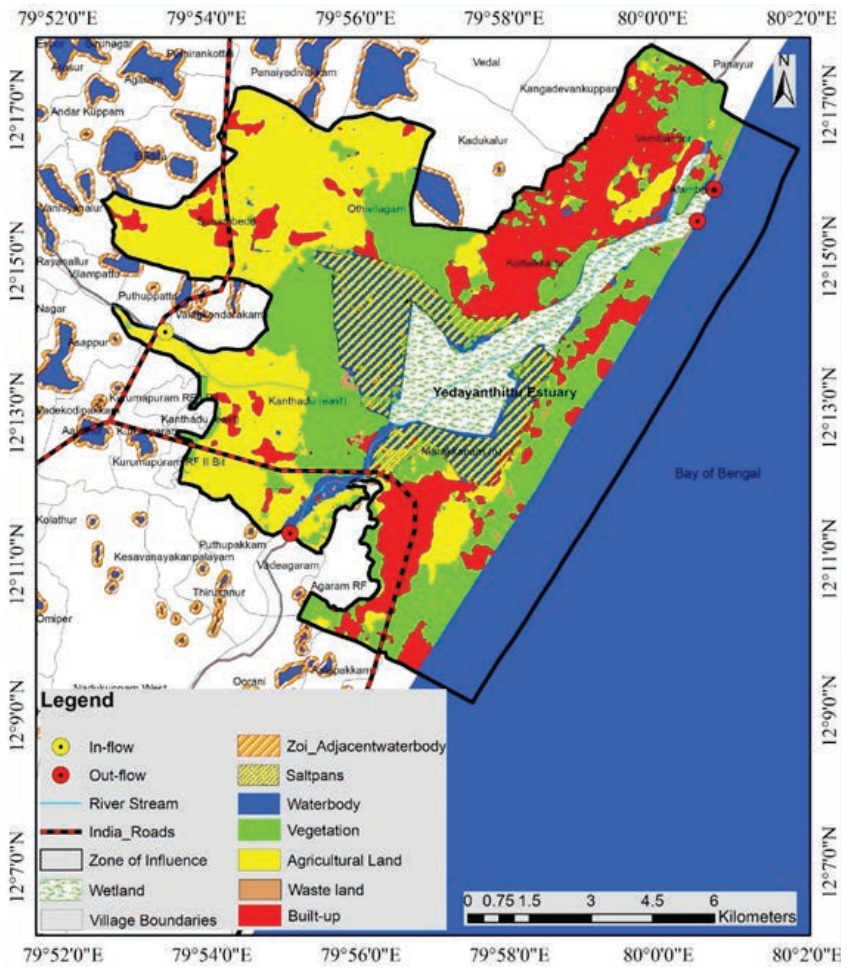
OVERVIEW AND LOCATION

Yedayanthittu Estuary, located in Villupuram district, Tamil Nadu, spans an area of 994.19 hectares. Situated in Kottaikadu village, Tindivanam, and Marakanam, this wetland falls under the jurisdiction of the Forest Department. Its geographical coordinates are 11˚44’8.4804” N latitude and 79˚47’2.2668” E longitude.

ECOSYSTEM SERVICES

The Yedayathittu Estuary provides several key ecosystem services. It supports communal fishing activities and hosts medicinal plants. Mangroves in the estuary play a crucial role in buffering communities from extreme events like floods and storms. Additionally, the estuary serves as a site for the congregation of migratory water birds and supports the life cycle of fish and amphibians, with almost 9 species of amphibians present. The mangroves are also essential for carbon sequestration, contributing to climate regulation.

ZONE OF INFLUENCE MAP



HEALTH ASSESSMENT AND INDICATORS OF YEDAYANTHITTU ESTUARY

S.No	Feature	Indicator	Desired Value	Actual Value	Category
1	Area	% Wetland converted to non-wetland use since 2000	0%	6-10%	C
2	Hydrology and Catchment	Ratio of number of natural inlets chocked and diverted to total number of natural inlets	0-0.2	0	A
		Ratio of number of natural outlets chocked and diverted to total number of natural outlets	0-0.2	0	A
		Biological Oxygen Demand (3 water samples)	3-6 mg/l	60-80% sample meet the criteria	B
3	Biodiversity	% wetland area covered by invasive macrophytes	<10%	11-20%	B
		Annual waterbird count as a proportion of average count of last 5 years	Increasing	0.5-0.6	C
4	Governance	Clearly demarcated wetlands map	Wetlands map prepared and updated by SWA	Wetland map prepared but not placed under SWA	C
		Wetland Management Plan	Management plan prepared and approved by SWA	No Management plan	E
		Wetlands notification	Wetland is notified under WPA	No regulation	E
				Health Score	D

Date of Entry : 18/10/2024

Date of Entry : 18/10/2024

WETLAND HEALTH

Wetlands in this category face severe ecological challenges, including significant conversion to non-wetland uses, poor water quality (low BOD compliance), high invasive species coverage, and declining biodiversity. Governance is largely absent, with no management plans, updated maps, or legal notification. Immediate and comprehensive conservation interventions are required to restore these wetlands.



THREATS

The spread of invasive species in the Yedayathittu Estuary is a concern. Currently, the presence of invasive species is observed, and there is potential for further spread, which could threaten the biodiversity and ecological balance of the wetland.





64 OUSSUDU LAKE BIRDS SANCTUARY

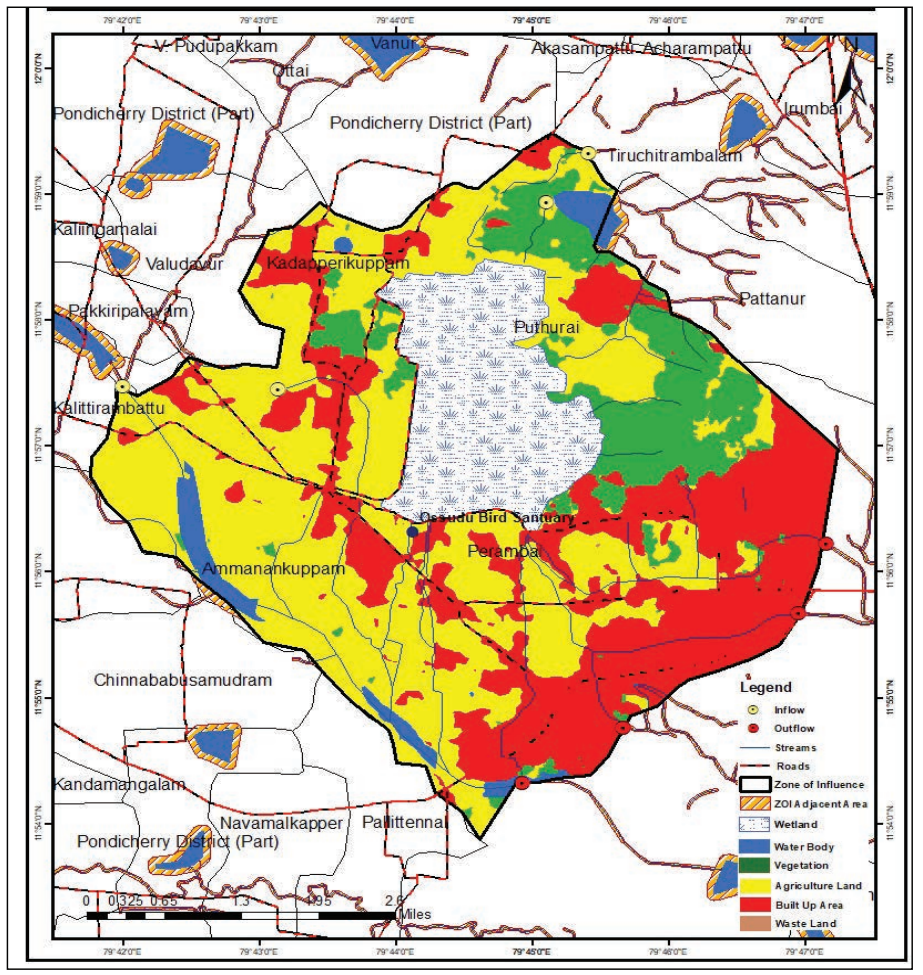
OVERVIEW AND LOCATION

Oussudu Lake Bird Sanctuary, also known as Oosteri or Oosudu Lake, is located in Villupuram district, Tamil Nadu. It spans an area of 775.73 hectares and is governed by the Forest Department. The wetland is located in the villages of Vanur and Putturai, with geographical coordinates at 11°56'19.51" N latitude and 79°44'7.27" E longitude. The site plays an important role in supporting local biodiversity and is a vital resource for migratory bird populations.

ECOSYSTEM SERVICES

Oussudu Lake Bird Sanctuary supports various ecosystem services. It serves as a source of water for agriculture, with surpluses from the wetland supplied to fields once it reaches full supply level. The wetland is also rich in medicinal plants and provides groundwater recharge. Additionally, it acts as a sink for sediments due to significant runoff from the surrounding catchment area. The wetland holds cultural and religious significance, with several temples around it, and is a popular site for nature enthusiasts and tourists. It supports the life cycle of fish and amphibians, with nearly eight amphibian species found. Furthermore, the sanctuary provides a suitable habitat for migratory water birds.

ZONE OF INFLUENCE MAP



HEALTH ASSESSMENT AND INDICATORS OF OUSSUDU LAKE BIRDS SANCTUARY

S.No	Feature	Indicator	Desired Value	Actual Value	Category
1	Area	% Wetland converted to non-wetland use since 2000	0%	0%	A
2	Hydrology and Catchment	Ratio of number of natural inlets chocked and diverted to total number of natural inlets	0-0.2	0	A
		Ratio of number of natural outlets chocked and diverted to total number of natural outlets	0-0.2	0	A
		Biological Oxygen Demand (3 water samples)	3-6 mg/l	Less than 20% sample meet the criteria	E
3	Biodiversity	% wetland area covered by invasive macrophytes	<10%	21-30%	C
		Annual waterbird count as a proportion of average count of last 5 years	Increasing	0.5-0.6	C
4	Governance	Clearly demarcated wetlands map	Wetlands map prepared and updated by SWA	Wetlands map prepared and updated by SWA	A
		Wetland Management Plan	Management plan prepared and approved by SWA	Management plan prepared and approved by SWA	A
		Wetlands notification	Wetland is notified under WPA	No regulation	E
				Health Score	C

Date of Entry : 18/10/2024

WETLAND HEALTH

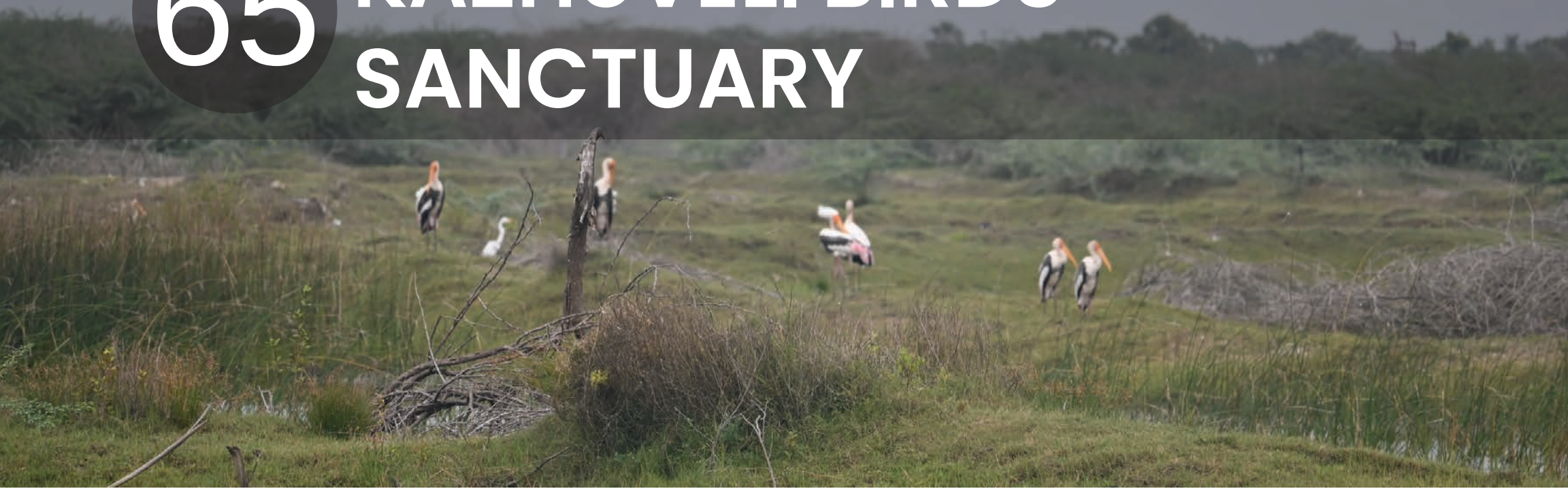
Wetlands in this range show poor ecological health, with some conversion to non-wetland uses, declining waterbird counts, and significant issues with water quality (low BOD compliance). Invasive species coverage is moderate to high, and governance is weak, with most wetlands lacking management plans, updated maps, or legal notification. Urgent conservation efforts are needed to address these challenges.



THREATS

Siltation at the Oussudu Lake Bird Sanctuary is currently present, with substantial water flow from the surrounding watershed contributing to sediment accumulation. The spread of invasive species is also present and could potentially worsen if not managed. These factors, if left unchecked, may significantly impact the wetland's ecological balance and require attention.

65 KAZHUVELI BIRDS SANCTUARY



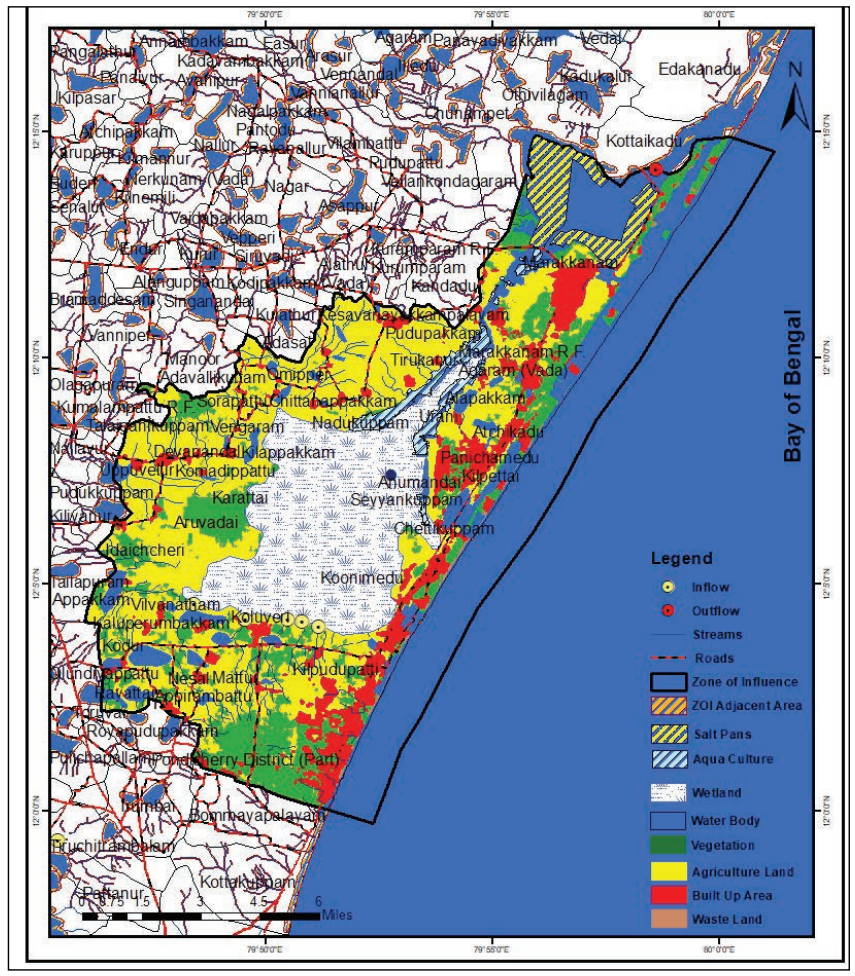
OVERVIEW AND LOCATION

The Kazhuveli Wetland, located in the Villupuram district of Tamil Nadu, is a significant bird sanctuary. It spans an area of 9,588.14 hectares and is situated in the villages of Marakkanam and Vanur. The geographical coordinates are 12°7'24.888" N latitude and 79°52'45.102" E longitude. The Forest Department holds jurisdiction over this wetland complex, which plays a vital role in biodiversity conservation, especially as a habitat for various bird species.

ECOSYSTEM SERVICES

The Kazhuveli Wetland supports various ecosystem services. It serves as a source of water for agriculture, with water drawn from its outflow for agricultural activities. Communal fishing is also happening, and medicinal plants are found in the wetland area. It plays a significant role in groundwater recharge and acts as a major source of groundwater replenishment. The wetland is also a site of high congregation of migratory water birds, providing a suitable environment for their gathering. The wetland supports the life cycle of fish and amphibians, with almost nine varieties of amphibians thriving there. Aquaculture activities are also present, with aquaculture ponds identified during field visits.

ZONE OF INFLUENCE MAP



HEALTH ASSESSMENT AND INDICATORS OF KAZHUVELI BIRDS SANCTUARY

S.No	Feature	Indicator	Desired Value	Actual Value	Category
1	Area	% Wetland converted to non-wetland use since 2000	0%	0%	A
2	Hydrology and Catchment	Ratio of number of natural inlets chocked and diverted to total number of natural inlets	0-0.2	0	A
		Ratio of number of natural outlets chocked and diverted to total number of natural outlets	0-0.2	0	A
		Biological Oxygen Demand (3 water samples)	3-6 mg/l	Less than 20% sample meet the criteria	E
3	Biodiversity	% wetland area covered by invasive macrophytes	<10%	21-30%	C
		Annual waterbird count as a proportion of average count of last 5 years	Increasing	0.6-0.7	B
4	Governance	Clearly demarcated wetlands map	Wetlands map prepared and updated by SWA	Wetlands map prepared and updated by SWA	A
		Wetland Management Plan	Management plan prepared and approved by SWA	Management plan prepared and approved by SWA	A
		Wetlands notification	Wetland is notified under WPA	No regulation	E
				Health Score	C

Date of Entry : 18/10/2024

WETLAND HEALTH

Wetlands in this range show poor ecological health, with some conversion to non-wetland uses, declining waterbird counts, and significant issues with water quality (low BOD compliance). Invasive species coverage is moderate to high, and governance is weak, with most wetlands lacking management plans, updated maps, or legal notification. Urgent conservation efforts are needed to address these challenges.





THREATS

Pollution in the Kazhuveli Wetland is present, with solid waste and plastic dumping being a concern. The spread of invasive species is also an issue, with potential impacts on the ecosystem. These factors highlight the need for management strategies to address pollution and control the spread of invasive species in the wetland.

