

Nemmeli Coastal Wetland Complex, Chennai

Ecological Significance, Anthropogenic Threats, and Conservation

A Conservation Report | April 2026 | Issued by Suzhal Arivom

Index

1. Overview and Site Description
 2. Ramsar Wetland Classification
 3. The Proposed Reservoir Project
 4. Avifaunal Significance
 5. Nemmeli and the Ramsar Framework
 6. Ecological Threats of Conversion
 7. Gaps in Environmental Assessment
 8. Critique of Ecological Mitigation
 9. A Legacy of Mismanagement
 10. Ecological Integrity and Resource Sustainability
 11. Water Scarcity and Management
 12. Local Community Livelihood
 13. Legal Gaps and Required Interventions
 14. Specific Recommendations and Reliefs Sought
 15. Conclusion and Way Forward
- References [1]–[19]

1. Overview and Site Description

This report examines the critical **ecological importance** of Nemmeli coastal wetland, the **destruction** it currently faces, and the urgent **need for its protection**. As a vital coastal buffer, the survival of Nemmeli is linked to the resilience of the region against an intensifying climate crisis considering India's eastern coastline is one of the country's most climate and ecologically sensitive regions.^[1]

A few months ago, there was widespread uproar over attempts to convert a small part of the Pallikaranai Marshland into multistorey apartments.^[2] But today, we find ourselves simply ignoring and silently witnessing the massacre and complete destruction of socially and ecologically important huge coastal wetland complex at Nemmeli. The Nemmeli coastal wetland, located in Chengalpattu district of Tamil Nadu, South India, is a thriving ecosystem that offers even richer biodiversity and stronger livelihood support than the well known Pallikaranai Marshland.

The Nemmeli coastal wetland, also known as the "Great Salt Lake," can be called as twin sister of the Pallikaranai marshland. Both of these vital naturally evolved wetland marsh ecosystems jointly drains into the Kovalam estuary (Muttukadu)^[3] and have several unique behaviour and

significance. Among these two, Pallikaranai marshland is protected and gained international recognition as a designated 'Ramsar site' but on contrast the Nemmeli coastal wetland even with more Ecological significance remains unprotected and is now on the path toward complete destruction, standing at the edge of irreversible degradation.

Situated south of Chennai, the Nemmeli coastal wetland — a vast ecologically sensitive area lying between the OMR and ECR — extends about 25+ kilometre from Kelambakkam to Mamallapuram. This land area, covering more than 8,500+ acres is a unique natural ecosystem where fresh water and sea water converge. To the north lies the Muttukadu estuary near Kovalam; to the south, the Kokilamedu estuary between Mamallapuram and Kalpakkam. Water from Bay of Bengal enters the Nemmeli coastal wetland through these estuaries.

The Nemmeli coastal wetland serves as the shared hydrological confluence for the Kovalam^[4] and Mahabalipuram^[5] watersheds. These watershed contains several water bodies including 69 upstream lakes & tanks.^[6] Among these Manamathi Lake, Siruthavur Lake, Amoor Lake, Thandalam Lake, Paiyanur Lake, Kondangi Lake, and Oragadam Lake are important. Twenty reserve forests including Illalur, Madaiyathur, Alandur, Thandalam Kattur, Sirukundram, Anjur, Vallam, Oragadam, and Thirukazhukundram are located within this catchment area.

As water flows towards east from the western catchment areas in this region, it is intercepted by the long stretches of sand dunes along the East Coast. These natural barriers not only halt the flow as it enters the Nemmeli coastal wetland but also play a crucial role in shaping its hydrology, helping regulate water levels and maintain the delicate balance of this fragile ecosystem. With water accumulating in this region for centuries, the area has gradually evolved into a seasonal wetland, enriched by silts carried and deposited by freshwater flows. During high tide, seawater flows deep into the coastal wetland, turning it into a brackish ecosystem. It is one of the critical wetlands in the **Central Asian Flyway** stopover, hosting thousands of migratory birds yearly.

The Nemmeli coastal marshland is dynamic in nature, continuously changing in response to seasonal variations, rainfall, and the daily tidal cycles of the sea. This area contains a wide range of habitats (habitat diversity), including shallow water bodies, wetlands, marsh lands, seasonal grasslands, mudflats, abandoned salt pans, dry land areas, patches of thorny scrubs & riparian vegetation and both freshwater and brackish water zones.

2. Ramsar Wetland Classification

The Ramsar Convention Classification System for Wetland Type^[7] identifies forty-two wetland types, grouped into three categories: '**coastal/marine**,' '**inland**,' and '**human-made**.'

The Nemmeli Wetland Complex primarily falls under the '**Marine/Coastal Wetlands**' category; however, it also possesses human-made wetland types:

Marine/Coastal Wetlands

- F — Estuarine waters; permanent water of estuaries & estuarine systems of deltas
- G — Intertidal mud, sand or salt flats
- H — Intertidal marshes; includes salt marshes, salt meadows, saltings, raised salt marshes; includes tidal brackish and freshwater marshes.
- I — Intertidal forested wetlands; includes mangrove swamps, nipah swamps and tidal freshwater swamp forests.

Human-made Wetlands

- 5 — Salt exploitation sites; salt pans, salines, etc.
- 9 — Canals and drainage channels, ditches.

Further Reference:

https://www.ramsar.org/sites/default/files/documents/library/handbook1_5ed_introductiontoconvention_final_e.pdf

3. The Proposed Reservoir Project

Tamil Nadu government has announced and started the work on converting this Nemmeli Coastal Wetland i.e. the Great Salt Lake into a fresh water reservoir last month (Jan 2026). As per the published plan the project will be implemented in two phases where at first phase 4375 acres^[8] coastal wetland will be acquired, top soil to be removed, embankment to be raised on all four sides covering overall more than 30 KM distance. At second phase remaining part of the project to be implemented which we don't have a clear visibility on what the plan is. The overall geographical area of these wetlands, classified as Government lands such as Uppangali and Kaliveli in the Revenue Records is identified as 8408.26 acres (or) 3404.15 Ha in Thiruporur and Thirukalukundram Taluk.^[9]

Though the intent of project is appreciable but citation for this project is ecologically wrong and we fear on long run it won't serve the purpose. Converting a predominant coastal wetland which has tidal influx both at North and South is not scientifically advisable.

In the age of climate change still keeping the ecology at backstage and prioritizing the human needs ('Anthropocene') will lead to more adverse effects. The reservoir plan has been framed by engineers and hydrologists from reputed institutions; however, the unfortunate reality is that they appear to lack ecological knowledge, awareness of the site's rich biodiversity, and have not engaged in discussions with local communities or with any of the city's renowned environmental scientists, ecologists, or naturalists. The project's citation reveals a failure to recognize the uniqueness of this habitat, showing no concern for the living organisms it sustains including the human communities who depend on it.

By ignoring the ecological science, biodiversity significance, the livelihoods of local communities and opposition from local community, scientists,^[10] naturalist, few political parties and environment organization this mega scale reservoir project have been advanced for implementation on this fragile coastal wetland. This initiative not only threatens an irreplaceable ecosystem but also risks undermining long-term environmental security and human well-being.

Destroying this diverse landscape would trigger irreversible ecological collapse, devastating both regional biodiversity and local livelihoods. The government must abandon freshwater reservoir conversion plans and instead designate this area as a "protected wetland." Following the precedent of Pallikaranai, formal protection is the only way to safeguard this vital environmental shield.

4. Avifaunal Significance

Artificially converting this delicate brackish ecosystem into a freshwater reservoir would trigger a cascade of ecological failures such as the following:

4.1 Species Richness

A total of **232 species** have been reported in the Nemmeli Wetland complex, reflecting a highly productive and diverse ecosystem.^[11]

4.2 Massive Congregations — 2025–2026 Season

Recent winter data highlights the sheer scale of life in this 25km corridor:

- Total Peak Count: Nearly **45,000 birds** were documented during the peak observation period as per our field study.^[12]
- Migratory Ducks: Over **16,000 ducks** (Garganey, Northern Pintail, Eurasian Wigeon) arrived this season marking it as the South Chennai region's biggest gathering in 2025–2026 Migratory season.^[13]

4.3 Waterbird Congregations

The wetland supports significant percentages of the biogeographic populations for several species, which is a key criterion for identifying internationally important wetlands:

Species	Count at Nemmeli	% of Global Population
Spot-billed Pelican	Hosts up to 600 individuals	6% of its global population ^[14]
Painted Stork	Hosts up to 500 individuals	2% of its global population ^[15]
Black-headed Ibis	Hosts up to 600 individuals	2% of its global population ^[16]

4.4 High Conservation Priority

Nemmeli supports **50 species** of birds currently facing rapid population decline as per the State of India's Birds (SoIB) Report 2023. Key species of High Conservation Priority recorded at Nemmeli include the Curlew Sandpiper, Common Pochard, Montagu's Harrier, Ruff, Great Thick-knee, Sandwich Tern, Greater Flamingo among others. The site also hosts **40 species** with medium conservation priority.

Note: The SoIB report defines High Priority species as those that show a significant long-term or rapid current decline in abundance, have a very restricted geographic distribution range within India, or are already classified as globally threatened on the IUCN Red List. Essentially, these are birds requiring immediate conservation intervention because their populations are either collapsing or are naturally so small and localised that any habitat disturbance could lead to local extinction.

4.5 Globally Threatened and Near-Threatened Species

The site provides essential habitat for **1 Endangered** (Great Knot), **7 Vulnerable** (Common Pochard, Grey Plover, Broad-billed Sandpiper, Curlew Sandpiper, River Tern, Greater Spotted Eagle and Black-capped Kingfisher) and **17 Near Threatened** species, including the Great Thick-knee, Eurasian Curlew, Bar-tailed Godwit, Black-tailed Godwit, Ruddy Turnstone, Lesser Flamingo, Asian Woolly-necked Stork, Spot-billed Pelican, Indian Spotted Eagle, Indian Courser, Dunlin, Asian Dowitcher, Eurasian Oystercatcher, Pallid Harrier, Indian Roller, Red-necked Falcon, and Rufous-tailed Lark (IUCN 2026).

4.6 Legal Protections

The site is home to **31 species** listed under **Schedule I** of the Wild Life (Protection) Amendment Act, 2022, the highest level of legal protection for wildlife in India.

4.7 Endemic Diversity

Nemmeli supports **22 species** endemic to the broader **Indian Subcontinent**, such as the Grey-bellied Cuckoo, Indian Courser, Indian Pitta, Black-headed Cuckooshrike, Rufous-tailed Lark among others.

4.8 A Critical Node in the Central Asian Flyway

The Nemmeli Coastal Wetland serves as a high-priority ecological stronghold within the Central Asian Flyway, acting as a critical migratory link and wintering site for birds traveling across continents. Its importance is underscored by its role as a key node for **88 recorded migratory species**, providing a vital sanctuary where these birds can rest and refuel during their arduous long-distance journeys.

It is a vital wintering ground for rare migrants like the Bar-headed Goose, Ruddy Shelduck, Sanderling, Terek Sandpiper, Eurasian Oystercatcher and Pied Avocet.

As per the **State of India's Birds (SoIB) Report 2023**, several species frequenting the Nemmeli Wetland have shown alarming trends: **Pied Avocet** has experienced a decline of over 80% in last 30 years; **Gull-billed Tern** has seen its numbers decline by more than 80% over the last 30 years; and **Greater Flamingo** has faced a reduction of more than 70% in the long term.

The Nemmeli wetland (The Great Salt Lake) is recognised as one of the **141 priority wetlands** identified for protection under the Tamil Nadu Wetlands Mission and Wetlands (Conservation and Management) Rules, 2017, and a brief document on Nemmeli conservation have been released by reputed SACON.^[18]

4.9 International Importance

The presence of species listed under the Convention on Migratory Species (CMS) — including **2 species in Appendix I** and **96 in Appendix II** — highlights Nemmeli's critical role in fulfilling international conservation obligations. The wetland supports species regulated under CITES, hosting **2 species from Appendix I** and **24 from Appendix II**.

As a signatory to the Convention on Migratory Species (CMS) and through the implementation of the National Action Plan (NAP) for Migratory Birds, India's commitment to safeguarding critical wetland networks is vital for avian conservation. In alignment with this plan and the National Biodiversity Strategy and Action Plan (NBSAP), the Nemmeli wetlands serve as a critical node within the Central Asian Flyway (CAF), hosting **eight** of the 20 species prioritized for Single Species Action Plans, including the Eurasian Curlew, Black-tailed Godwit, Bar-tailed Godwit, Greater Flamingo, Curlew Sandpiper, Little Stint, Great Knot, and Common Pochard.

Note: In March 2026, for the first time in the Chennai and North Tamil Nadu region, the Demoiselle Crane — a transcontinental migratory species — has been documented at Nemmeli. Its presence confirms that the Nemmeli wetland complex is a thriving ecosystem near our coast, providing a unique ecological niche even for rare trans-continental species.

Additional Note: For the past four years, starting in 2023, the Nemmeli coastal wetland has been featured in the Tamil Nadu Synchronized State Level Wetland Survey and officially recognised as a birding hotspot. These surveys were led primarily by the Madras Naturalists' Society members.

5. Nemmeli Wetland and the Ramsar Framework — Meeting International Standards

The Nemmeli Coastal Wetland clearly meets multiple **Ramsar Sites Criteria for international importance** under Group B, which emphasises the conservation of biological diversity. As mentioned above it supports vulnerable, endangered, and critically endangered species as well as threatened ecological communities, thereby fulfilling **Criterion 2**. It also provides essential habitat for plant and animal species during critical stages of their life cycles and serves as a refuge during adverse conditions, aligning with **Criterion 4**. In terms of waterbird significance, the wetland regularly sustains **20,000 or more waterbirds**, meeting **Criterion 5**, and supports at least **1% of the individuals in a population of one species or subspecies of waterbird**, satisfying **Criterion 6**. Collectively, these criteria demonstrate that Nemmeli Coastal Wetland possesses outstanding ecological value and qualifies for recognition as a **site of international importance under the Ramsar Convention**^[17]. The detailed document with Ramsar criteria and other conservation status matched can be seen at reference section.

6. Ecological Threats of Conversion

- As an **ecotone** (a transition zone between two different ecosystems) habitat diversity is the primary foundation for the rich biodiversity found in the Nemmeli wetland, including its avian populations. The coexistence of mudflats, shallow waters, grassland and vegetated fringes creates unique niches that support a wide array of species. Any destruction of this habitat diversity would be detrimental, leading to a collapse of the ecological balance and a significant loss of wildlife.
- Since most bird populations, including the threatened species mentioned above, rely on specific low water levels for foraging, any alteration in water depth is profoundly detrimental. Shorebirds and waders are physically constrained by their leg and bill lengths; even a slight increase in depth can submerge their feeding grounds. Maintaining natural, shallow brackish hydrological regimes is the most critical factor for the conservation of Nemmeli's avifauna. Any alterations do not merely change the landscape; they may lead to rapid habitat abandonment and the **hyper-localised extinction** of bird populations.
- The habitats of benthic organisms that lay eggs and reproduce in sand and mud, as well as those of fish and prawns that live underwater, would be destroyed. This would also adversely affect marine resources.
- This wetland, which has two estuaries, serves as a breeding ground for important prawn species present in the food chain of marine organisms. Converting it into a freshwater area would completely disrupt the breeding environment of prawns. As a result, the livelihoods of numerous fishing families who depend on this water body would be severely affected.

- If, during high tide, seawater is prevented from reaching the expansive wetland, that water may flood nearby residential areas and cause damage. In particular, since this area is prone to severe storms, coastal surges during disasters would create additional problems.
- Over the past few years, seawater intrusion towards the land at certain areas around Nemmeli due to coastal erosion has been occurring continuously. In this situation, this wetland, located 800 meters from the coast, is in a high-risk zone where seawater may enter during tidal surges. Establishing a freshwater system here is not an appropriate choice at this stage, especially under the ongoing impacts of climate change.
- For several centuries, salt has been produced here, enriching the soil and surface of the wetland with salt. Removing this long-established salinity and creating a freshwater reservoir in its place would be a highly challenging task.

7. Gaps in Environmental Assessment and Citation Process

7.1 Rapid Environmental Impact Assessment (REIA)

The most fatal gap in this assessment is the **gross disproportion** between the project's 8,500+ acre scale (total area of wetland from estuary to estuary) and its "Rapid" methodology. While the process may technically comply with certain clauses of the EIA Act, it fails to fulfil the fundamental purpose of an Environmental Impact Assessment: to rigorously evaluate the real impacts of a project on the environment.

A project of this magnitude, which permanently alters multiple protected Coastal Regulation Zones (CRZ IB, II, III, and IVB), requires a **Comprehensive EIA** (full-year cycle) rather than a "Rapid" three-month snapshot. By conducting baseline monitoring only from **April to June 2025** (peak dry season), the study systematically ignores the hydrological and biological reality of the monsoon.

Furthermore, attempting to characterise the biodiversity of a 17.71 sq. km+ ecosystem based on a mere **six-day site visit** (Oct 31 – Nov 5, 2025) is scientifically indefensible & void. This "snapshot" approach fails to document the area's critical function as a natural flood bowl and seasonal wetland habitat.

Additionally, the study uses **climatological data (1991–2020)**, effectively leaving the extreme weather volatility and sea-level rise recorded between 2021 and 2025. By "**salami-slicing**" the project into phases and presenting data for only 4,375 acres, **the proponent masks the true cumulative devastation of an 8,500+ acre land-use change**. Approving a permanent landscape transformation based on a dry-season study and a one-week visit is a severe procedural failure.

8. Critique of Ecological Mitigation Suggested in EIA

Proposed Mitigation Point	Ecological Reality & Why it will Fail at Nemmeli
Relocation to Kokilamedu (3.45 sq. km existing Kazhuveli)	Habitat Saturation & Site Fidelity: Habitats are not empty vessels. Kokilamedu already supports its maximum carrying capacity. Most wetland birds exhibit strong site fidelity — they return to the exact same foraging patches year after year. Forcing a displaced population into a neighbouring site triggers inter-species conflict and starvation, as the "relocated" birds are forced to compete for already-depleted resources in a foreign territory, leading to the collapse of both populations.
Conversion of Salt Pans (5.12 sq. km Uppalam/Uppangazhi)	Geochemical Barrier: Salt pans are hypersaline environments. You cannot simply "declare" them freshwater marshes. The soil chemistry is toxic to the freshwater flora intended for "Kazhuveli" land. Without massive, high-cost soil remediation, the salt-saturated ground will prevent the growth of the intended freshwater vegetation, resulting in a biological desert.
6 Artificial Islands (1,200 sq. m total)	The proposal to construct six artificial islands totalling a mere 1,200 sq. m (0.3 acres) to compensate for the destruction of thousands of acres of natural wetland is an ecological absurdity. This represents a near 100% loss of functional habitat. Because these islands will be encased by 3 meters of deep water, they are biologically useless for the thousands of waders and dabbling ducks such as Sandpipers, Stilts, and Teals which depend on Nemmeli's expansive, shallow mudflats and marshlands.
Compensatory Wetland Offset (Designated feeding areas)	The Biological Time-Lag: A natural wetland is a complex web of benthic organisms (worms, larvae, crustaceans). A "created" wetland is just a pit of water. It takes years, if not decades, to develop the food density required to sustain migratory birds.

Total Ecological Mitigation Plan (EMP Budget): ₹11.3 Crores — This amount seems to be a "token gesture" and not going to serve the actual purpose. It fails to cover the actual cost of replicating a 8,500+ acre self-sustaining ecosystem, which is arguably priceless and technically impossible to re-create.

9. A Legacy of Mismanagement: From Pallikaranai to Nemmeli

The current construction of the **Mamallan Reservoir** in Nemmeli (January 2026) is a high-stakes repetition of the flawed **2021 Pallikaranai reservoir plan**, which was eventually halted due to its ecological unviability. Both projects share a fundamental "engineering-first" approach, treating complex, tidally influenced coastal wetlands as simple inland depressions.

Just as the 2021 intervention in Pallikaranai was stayed after experts proved it would destroy the marsh's role as a "natural sponge," the Nemmeli project ignores the site's status as a **coastal ecotone**.

If construction continues at Nemmeli, the region faces the same **engineered vulnerability** that Pallikaranai narrowly avoided. By erecting 4.5-meter high bunds to trap freshwater, the project does not just destroy saline mudflats & marshlands; it dismantles the natural floodplains and may create a rigid "flood trap" that increases the risk of overtopping and catastrophic failure during extreme weather. To safeguard our coastline, we should understand that Nemmeli is not an empty tank to be filled, but a living shield that provides irreplaceable climate resilience and livelihood to people.

10. Ecological Integrity and Resource Sustainability

Protecting the Nemmeli wetlands requires a shift away from high-intensity engineering toward a model of conservation that respects the site's natural hydrology and geological history. The proposed construction of massive embankments and stone revetments represents a significant drain on "virtual resources," requiring several thousand truckloads of stone and incurring an immense carbon footprint.

Furthermore, bringing in vast quantities of external soil poses a severe biosecurity risk, potentially introducing invasive species that could permanently disrupt the delicate floral and faunal balance of the *Kazhuveli* and *Uppangazhi* ecosystems. Introducing stone into a naturally soft-sediment, stone-free wetland is an ecological mismatch that interferes with essential tidal flows and sediment transport.

We should instead draw inspiration from the Pallava era, which transformed existing stones into art without altering the fundamental nature of the coastal wetlands; modern efforts should similarly prioritise the preservation of this indispensable tidal-marsh ecotone to ensure long-term climate resilience and biodiversity.

11. Water Scarcity & Management

South Chennai's water security is already addressed by the 400 MLD desalination plant. Adding another 170 MLD source from the same fragile zone is not about meeting need — it is about overextraction at the cost of ecological collapse and social injustice. Protecting Nemmeli is therefore not just an environmental imperative, but a matter of **climate resilience, community survival, and ethical governance**.

For flood mitigation and augmentation of drinking water resources in Chennai, resilient climate-adapted approaches have already been outlined by expert retired PWD officers from Tamil Nadu PWD Senior Engineers Association (TANSEA). They have opposed the proposed Sixth Reservoir in the Kovalam subbasin and instead suggested sustainable alternatives. Their stance underscores that Chennai's water security can be achieved without sacrificing the Nemmeli coastal wetland - a critical ecological shield and biodiversity hub.

12. Local Community Livelihood & Struggle

Thousands of people across **16 fishing villages** depend on the Nemmeli coastal wetland for their **livelihoods**. Inland fishing communities near Padur and **tribal settlements** between Kovalam and Mahabalipuram also rely on its rich resources. The wetland sustains prawns, crabs, and brackishwater fish, forming the backbone of local subsistence. Several women continue traditional handcatching in shallow marshes, sustaining their households with income drawn directly from the wetland's resources.

As emphasised by the United Nations' 2026 World Wetlands Day theme — *"Wetlands and Traditional Knowledge: Celebrating Cultural Heritage"* — Nemmeli exemplifies centuries of harmony between people and nature. Communities, birds, and aquatic organisms have coexisted here without disrupting the food chain. Protecting Nemmeli is therefore not only vital for biodiversity and livelihoods, but also for safeguarding cultural heritage and ecological resilience.

13. Legal Gaps and Required Interventions

- **CRZ Notification, 2019:** The project directly impacts CRZ-IB zones, where construction is categorically restricted. As such, it may require a comprehensive review by the Ministry of Environment, Forest and Climate Change (MoEFCC) and cannot proceed on the basis of a Rapid EIA. Few ground findings further indicate that the project may affect several acres of CRZ-IA ecologically sensitive areas that demand the highest level of protection which includes coastal marshlands (kazhuveli), salt marshes (uppankazhi) & Buckingham canal of this region all of which warrant detailed analysis and rigorous safeguards.
- **Contravention of Wetlands (Conservation and Management) Rules, 2017:** Nemmeli should have been identified as a priority wetland under the Tamil Nadu Wetlands Mission. Rule 4 explicitly prohibits activities that damage or destroy notified wetlands. Failure to engage the State Wetland Authority before planning and construction in a critical wetland with a thriving ecosystem is a collective failure.
- **Wild Life (Protection) Amendment Act, 2022:** In possible violation of the Wildlife (Protection) Amendment Act, 2022, habitat destruction and the clearance of food sources threaten the primary habitats of 31 Schedule I species dependent on this wetland. The protection of these habitats is a matter of utmost priority.
- **Non-Compliance with Environment (Protection) Act, 1986:** The project has not secured comprehensive full clearance under the EIA Notification, 2006. For a land use change in the area of 8,500+ acres, reliance on a Rapid EIA based on a six-day dry-season survey fails to meet the Act's requirement for rigorous prior assessment.
- **International Commitments under CBD and CMS:** India's obligations under the Convention on Biological Diversity and the Convention on Migratory Species, including the NBSAP and Central Asian Flyway Action Plan, require protection of critical wetland habitats. Construction at Nemmeli will violate these commitments made internationally.

14. Specific Recommendations and Reliefs Sought

In light of the foregoing, we respectfully recommend to the Government of Tamil Nadu and respective authorities that:

- **All construction activities** at the Nemmeli Coastal Wetland under the proposed Mamallan Reservoir project be stayed pending comprehensive judicial or regulatory review.
- The **Government of Tamil Nadu** conduct a **Comprehensive EIA** covering a full annual hydrological cycle (minimum 24 months considering El-Nino), with mandatory monsoon-season surveys, in place of the inadequate Rapid EIA.
- The **State Wetland Authority (Tamil Nadu)** formally notify the Nemmeli Wetland Complex as a protected wetland under the **Wetlands (Conservation and Management) Rules, 2017**.
- The **Tamil Nadu Government** initiate the process for **Ramsar Site nomination** for Nemmeli, given that it demonstrably meets several Ramsar Criteria.
- The **Biodiversity Management Committees** around the Nemmeli coastal wetland be re-initiated and regularly conduct biodiversity documentation surveys and prepare a **People's Biodiversity Register** for the Nemmeli Wetland Complex in accordance with the **Biological Diversity Act, 2002**.
- No project affecting this site be approved without **mandatory consultation with local fishing communities**, in accordance with the right to livelihood under **Article 21 of the Constitution of India**.
- Authorities to explore **ecologically sound, community-centred water management alternatives**, as recommended by expert engineers from TANSEA

15. Conclusion and Way Forward

In light of the ecological insights and social impacts highlighted regarding the proposed Mamallan Reservoir, we respectfully urge the government to **scrap the reservoir plan** and halt all ongoing construction activities that threaten to alter the natural coastal wetland. It must be clearly conveyed to planners and designers that land left undeveloped is not "empty" but often harbours rich ecological and biodiversity values that demand protection.

As a proactive step toward strengthening climate resilience, the **Nemmeli coastal wetlands** should be formally recognised and protected as a **priority wetland**, especially considering the 16 fishing villages that depend on its resources. The **Biodiversity Management Committee** must be activated, and pathways explored to secure conservation status for this vast landscape, such as designation as a **Biodiversity Heritage Site**, ensuring long-term protection in collaboration with local communities.

This wetland is exceptionally rich in **bird diversity**, particularly raptors, making it a potential hub for **bird-based ecotourism** such as raptor-watching and migratory bird festivals. Furthermore, it hosts the **nearest mangrove ecosystem to South Chennai**, which should be promoted and expanded as a natural buffer against climate risks.

Finally, instead of allowing unchecked urban sprawl concentrated in a single city, development should be **decentralised across the state**. This approach will balance economic growth with ecological sustainability, ensuring that wetlands and other fragile ecosystems are preserved for future generations.

References

- [1] Climate Change Impacts on Coastlines in Eastern Coast of India — *ResearchGate / Peer-reviewed Study (2020)*
https://www.researchgate.net/publication/349237163_Climate_Change_Impacts_on_Coastlines_in_Eastern_Coast_of_India_A_Systematic_Approach_for_Monitoring_and_Management_of_Coastal_Region
- [2] Madras HC halts luxury housing project near Pallikaranai Ramsar wetland — *The Federal, Oct 31, 2025*
- [3] Kovalam–Muttukadu estuary hydrological reference <https://mghydro.com/app/shared/15D030>
- [4] South Kovalam Watershed
<https://mghydro.com/app/report?lat=12.578&lng=80.179&precision=high&simplify=true#hydrology>
- [5] Mahabalipuram Watershed
<https://mghydro.com/app/report?lat=12.803&lng=80.239&precision=high&simplify=true>
- [6] Rapid Environmental Impact Assessment (REIA) — Mamallan Reservoir
- [7] Ramsar Convention Wetland Classification
https://www.env.go.jp/en/nature/npr/ramsar_wetland/pamph/ramsarpamphen/RamsarSites_en_web07.pdf
- [8] REIA Document, Pages 18 and 246
- [9] REIA Document, Page 188
- [10] Scientists oppose Mamallan Reservoir Project — *New Indian Express, Feb 16, 2026*
<https://www.newindianexpress.com/states/tamil-nadu/2026/Feb/16/this-isnt-an-empty-patch-of-land-scientists-oppose-mamallan-reservoir-project>
- [11] State of India's Birds (SoIB) — Myna Report, April 17, 2026
https://drive.google.com/file/d/1DjrhdtDuYHrX5XeeGq5muMnFUUJPUY/view?usp=drive_link
- [12] Refer REIA Page 216
https://drive.google.com/file/d/1pG_ty9ZyEjJlWtVYtuoYswKZs0HXP9zZ/view?usp=drive_link
- [13] More than 16,000 migratory ducks spotted at Nemmeli — *Times of India*
<https://timesofindia.indiatimes.com/city/chennai/more-than-16000-migratory-ducks-spotted-at-nemmeli-waterbody-regions-biggest/articleshow/125622771.cms>
- [14] Waterbird Populations Portal — Spot-billed Pelican — *Wetlands International*
<https://wpp.wetlands.org/explore/3793/1984>
- [15] Waterbird Populations Portal — Painted Stork — *Wetlands International*
<https://wpp.wetlands.org/explore/3808/2000>
- [16] Waterbird Populations Portal — Black-headed Ibis — *Wetlands International*
<https://wpp.wetlands.org/explore/3776/1939>
- [17] Nemmeli Wetland Documentation https://drive.google.com/file/d/1HsmNKTJu75-WhNjc408YEr4yw666GEYd/view?usp=drive_link
- [18] SACON Report - Criteria for Wetland Prioritization & Framework for Wetland Monitoring in the State of Tamil Nadu. Submitted to Tamil Nadu Forest Department; funded by the State Planning Commission and TN State Land Use Research Board, Ezhilagam, Chepauk, Chennai. Study led by Dr. Goldin Quadros and Dr. Mahendiran Mylswamy https://drive.google.com/file/d/1pTr7hmkWgE3c8M7Wf5iWPKy1Vp2lrUB0/view?usp=drive_link
- [19] Ecological benefits of Pallikaranai Marshland — *Hindu Tamil*
<https://www.hindutamil.in/news/supplements/uyir-moochi/609795-eco-benefits-of-pallikaranai-marshland.html>

End Note

This report is issued by **Suzhal Arivom**, a grassroots volunteer-based research organization committed to local ecosystem conservation, climate change literacy, and mitigation. All data and insights presented herein have undergone peer review, with references duly cited in accordance with accepted academic and legal standards of documentation. The intent of this publication is to underscore critical technical gaps in environmental assessment, particularly the omission of ecology and biodiversity considerations, which are essential under the precautionary principle and the public trust doctrine. These principles obligate both planners and authorities to safeguard natural resources for present and future generations.

By releasing this report, Suzhal Arivom affirms its role in exercising the right to information and the duty of care toward the environment, while urging compliance with substantive and procedural safeguards under environmental law. For further communication, we may be reached at: **suzhalarivomevents@gmail.com**