Wetlands International South Asia

Annual Report

2024–2025

Wetlands INTERNATIONAL

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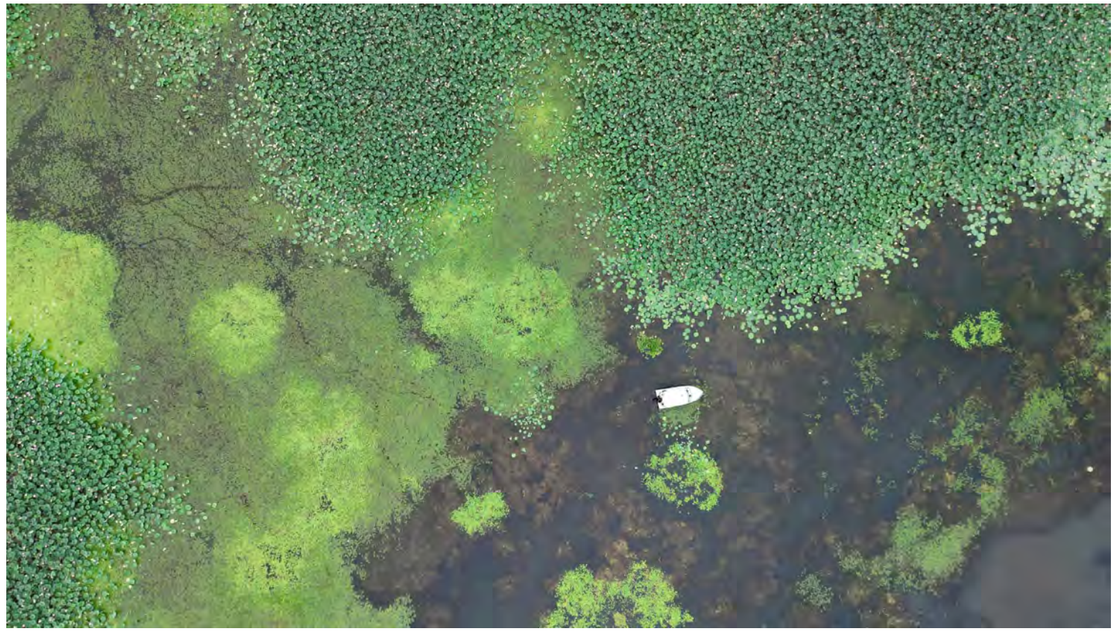
Annual Report

2024 – 2025



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Cover Photo: Lotus blooms recorded in Wular, Jammu and Kashmir, after four decades / © Dhruv Verma
Back Cover Photo: Puga hot springs, Ladakh / © Suchita Awasthi

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About us

Wetlands International South Asia is a non-government organisation committed to the conservation and restoration of wetlands in the South Asia region.

The organisation was established in 1996 in New Delhi as part of the Wetlands International network. Wetlands International is a global, independent, non-profit organisation dedicated to the conservation and restoration of wetlands. With a global office in the Netherlands, Wetlands International presently works in over 100 countries through a network of 19 regional and national offices and expert networks. Wetlands International is one of the six International Organisation Partners of the Ramsar Convention. In 2005, Wetlands International South Asia was registered under the Societies Registration Act of the Government of India.

The organisation strives to achieve its mission of inspiring and mobilising society to safeguard and restore wetlands for people and nature using three interconnected strategies, namely providing science and evidence-based tools and knowledge, delivering on-ground outcomes through effective field demonstrations, and fostering collaborations and partnerships to support long-term conservation outcomes. The organisation focuses on creating an enabling environment for wetlands conservation through developing skills and capacities, training systems, collective mechanisms, and supporting effective institutions. The work of Wetlands International South Asia spans the following impact focus areas:

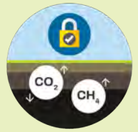
Strengthening integrated management of wetlands

Rejuvenating wetlands for water security

Nurturing wetland livelihoods

Wetlands as Nature-based Solution for disaster risk reduction

Conserving wetlands biodiversity



Safeguarding wetland carbon

Our Governing Body

The Governing Body comprises the Office Bearers, seven members elected by the General Body and the Chief Executive Officer, Wetlands International, as the ex-officio member.

Dr Sidharth Kaul, *President*

Former Advisor (Wetlands), Ministry of Environment, Forests and Climate Change, Government of India

Prof JK Garg, *Vice-President*

Formerly Director, Tribhuvan College of Environment and Development Sciences, Nalanda University Centre, Neemrana

Mr Pijush Sinha, *Treasurer*

Board Member, Avendus Finance Private Limited

Prof CK Varshney

Professor Emeritus, Environmental Sciences, Jawaharlal Nehru University and Distinguished Adjunct Professor, AIT, Bangkok

Dr Sara Ahmed

Adjunct Professor, Indian Institutes of Science Education and Research (IISER), Pune and *Founder*, Living Waters Museum

Dr Lalitha Vijayan

Honorary Director, Salim Ali Foundation, Thrissur, Kerala

Prof MN Murty

Former Director, Institute of Economic Growth, New Delhi

Prof KV Jayakumar

Visiting Professor & Outreach Advisor, IIT Dharwad
Formerly Professor of Civil Engineering, Dean (Planning & Development) and Dean (International Relations and Alumni Affairs), NIT Warangal, Telangana

Dr Manoj P Samuel

Executive Director, KSCSTE–Centre for Water Resources Development and Management (CWRDM)

Mr Coenraad Krijger

Chief Executive Officer, Wetlands International Global office, The Netherlands (ex-officio)

Our Presence

** Map not to scale*

Hanle, Ladakh / © Suchita Awasthi

FROM
The President

As we reflect on the past years, I am proud to highlight our tireless efforts in wetland conservation. Our dedicated team and partners have worked relentlessly to protect these vital ecosystems. It gives me great pleasure in presenting the Annual Report 2024–25, which shows a significant enhancement in the geographical presence as well as thematic reach of the organisation.

Peatlands are vital ecosystems that support biodiversity, regulate the climate, and provide numerous ecosystem services. However, they face significant threats from degradation, drainage and climate change. Accurate mapping is crucial for effective conservation and management. Peatland maps can help identify areas of high conservation value, monitor changes and inform policy decisions. During the year, we concluded the first-of-its-kind, peatlands probability map for the Indian Himalayan region and the Western Ghats. Our analysis indicates a significant presence of peatlands in the landscape as well as the adverse impact created by management, which does not recognise these ecosystems. We are also engaged closely with the GHG inventory process and developed a Tier-1 assessment of GHG emissions and removals from wetlands in India. Going ahead, these initiatives will provide a firm footing for integrating wetlands in climate change mitigation programmes. We are also pleased to report that we have joined hands with Tata Motors Limited to nurture wetland-positive landscapes around their production facilities.

In our efforts to improve the application of best practices to wetlands management, we developed a framework for wetland wise use, a tool to assess adaptation co-benefits of wetlands management, a protocol for delineating and demarcating wetlands, and enhanced coverage of the management effectiveness tracking tool to nearly 60% of the Ramsar Sites. We have also progressed with the establishment of a Ramsar Regional Initiative for the South Asia region and presented a blueprint for the same at a side event held during the 15th meeting of the conference of contracting parties to the Ramsar Convention.

We, unfortunately, lost Professor BB Dhar, one of the ardent members of our Governing Body, in October 2024. Such voids can never be filled, however, his vision lives in our work and thrives in our commitments.

Internally, we have taken measures to strengthen governance of the organisation. Crucial to these is putting in place a skill and qualification matrix for enhancing the diversity of skills and experience within the society's Governing Body. We are also bringing in changes in our membership strategy so that diverse stakeholders can join hands for strengthening the cause of wetlands conservation.

As we look to the future, the road ahead is filled with both challenges and opportunities. The urgency of our mission has never been greater. We are committed to scaling up our initiatives, fostering new collaborations, and pioneering innovative approaches to wetland conservation. Thank you for being a part of this vital journey. Your support is instrumental in enabling us to continue our work, and together, we will build a sustainable legacy for generations to come. As we look ahead, we remain committed to advancing our mission and protecting these precious ecosystems for future generations.

I take this opportunity to thank our members of the Governing Body and General Body for their continued support and guidance. I also extend my thanks to the technical and administrative staff of the organisation for their dedicated work and commitment to various programmes. We invite you to explore our annual report and learn more about our work together. Let us continue to champion wetland conservation and promote a healthier planet. I expect your effective feedback to make our annual report more meaningful and innovative in nature.

Dr Sidharth Kaul
President

CONTENTS

FROM The Director's Desk

In recent times, wetlands have been grabbing front cover space for various reasons. The Supreme Court Judgement of December 2024, which requires wetland authorities across the country to ground truth and demarcate wetlands, stands out as the first serious effort in recent times to stock-take the extent of wetlands in the country beyond the statistics provided by remote sensing images. While the wetland authorities are using all resources to confirm that the wetlands indicated in the National Wetlands Atlas exist, they are equally challenged by a lack of uniform codes and benchmarks to conduct field wetland delineation. Equally complex is the challenge of boundary demarcation, which gets into the domains of rights and ownerships—a complex area, as in several wetlands across the country, private rights prevail, and the land use classification system adopted to date does not accommodate wetlands as a distinct category. Unless this is rectified, wetlands will continue to be misclassified and converted to alternative uses.

Individual behaviour changes towards nature conservation, —particularly in wetlands—can greatly complement policy and regulatory measures. Reinvoking links of wetlands with culture can influence perceptions of nature and provide a framework for sustainable lifestyle choices, thus bringing a common citizen into the folds of wetlands conservation. Educating students and youth on multiple values of wetlands and their role in societal wellbeing can provide a firm ground for enabling such a change.

India has rapidly stepped up the pace of designation of Ramsar Sites, with the network inching closer to 100 wetlands. However, designation of sites is only the first step in conservation; it is the actions which follow after, in terms of management, monitoring, and stakeholder engagement, that determine whether the designation actually lives up to the commitment of being a part of a global network of wetlands critical for maintaining global biological diversity. Management effectiveness tracking can be a useful tool to understand the critical areas that need strengthening. With OECMs recognised in National Biodiversity Targets, a new framework for recognizing the contribution wetlands outside the protected area network make to biodiversity conservation has been brought into the programming mix. The actual utility will, however, emerge from experiences of implementation in sites, especially those under private management.

The current scale of investment and intervention being made in wetlands falls severely short of what is needed to bend the curve of wetland degradation and loss. The extent of information and capacity needed to prepare management plans has become a critical barrier, limiting public investments in a few sites. The need of the hour is to develop effective frameworks that can help wetland managers and stakeholders to quickly identify no-regret actions for wetland conservation, while building the evidence base for long-term adaptive management.

Finally, we are gradually inching closer to 2030, wherein most of the global frameworks for conservation and sustainable development will be re-evaluated and a post-2030 strategy developed. It is important that wetlands receive their due space in these developments.

Dr Ritesh Kumar
Director

LIST OF ABBREVIATIONS

AWC	Asian Waterbird Census
AWSN	Asia Wetland School Network
BDO	Block Development Officer
BDES	Biodiversity and Ecosystem Services
BNHS	Bombay Natural History Society
BTR	Biennial Transparency Reports
CAF	Central Asian Flyway
CMS	Convention on Migratory Species
CoP	Conference of Parties
CWRDM	Centre for Water Resource Development and Management
DALYs	Disasbility Adjusted Life Years
DDMA	District Disaster Management Authority
DDMP	District Disaster Management Plan
DoECC	Department of Environment & Climate Change, Government of Arunachal Pradeshh
DoEFCC	Department of Environment, Forest, and Climate Change, Government of Bihar
DRR	Disaster Risk Reduction
DPS	Delhi Public School
Eco-DRR	Ecosystem-based Disaster Risk Reduction
FMP	Framework Management Plan
GEF	Global Environment Facility
GHG	Greenhouse gas
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
GMA	Global Mangrove Alliance
GoJ&K	Government of Jammu and Kashmir
GPA	Global Peatland Assessment
GSWA	Goa State Wetland Authority
ICIMOD	International Centre for Integrated Mountain Development
IMWBES	Integrated Management of Wetland Biodiversity and Ecosystem Services
IMP	Integrated Management Plan
INC	Initial National Communication
IPCC	Intergovernmental Panel on Climate Change
IKI	International Climate Initiative
IUCN	International Union for Conservation of Nature
IWC	International Waterbird Census
IWMI	International Water Management Institute
KSMDB	Kumbalathu Sankupillai Memorial Devaswom Board College
KSCSTE	Kerala State Council of Science, Technology & Environment
LDA	Loktak Development Authority
METT	Management Effectiveness Tracking Tool
MoEFCC	Ministry of Environment, Forest and Climate Change
NBA	National Biodiversity Authority
NbS	Nature-based Solutions
NCT	National Capital Territory
NDC	Nationally Determined Contribution
NFP	National Focal Points
NGO	Non-Government Organisation
NIDM	National Institute of Disaster Management
NIRDPR	National Institute of Rural Development and Panchayati Raj
NIT	National Institute of Technology
NPCA	National Plan for Conservation of Aquatic Ecosystems
NMCG	National Mission for Clean Ganga
OECM	Other Effective Conservation Measures
PRI	Panchayati Raj Institutions
RRCEA	Ramsar Regional Centre East Asia
SIDA	Swedish International Development Corporation Agency
SOP	Standard Operating Procedure
SOC	Soil Organic Carbon
SWAK	State Wetlands Authority Kerala
TML	Tata Motors Limited
UT	Union Territory
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
UPFD	Uttar Pradesh Forest Department
UPSWA	Uttar Pradesh State Wetlands Authority
WI	Wetlands International
WUCMA	Wular Conservation and Management Authority
W4R	Wetlands for Resilience

Loktak Lake, Manipur / © kissor meetei, Shutterstock

Year at a Glance
2024–25

Vadavur, Tamil Nadu / © Harsh Ganapathi

The programmes of Wetlands International South Asia during 2024–25 covered five themes (strengthening integrated management, rejuvenating wetlands for water security, wetlands as nature-based solution for disaster risk reduction, wetlands biodiversity, safeguarding wetlands carbon). These interventions are structured around three interconnected and broad strategies, namely →

Think
Providing science-base and tools for conservation

Act
Work in specific sites delivering on-ground actions

Inspire
Inspire key actors and stakeholders to deliver results sustainably

Strengthening Integrated Management

- Progressed Integrated Management Plans of 11 wetlands, of which two were approved, committing ₹ 1,500 million over the next five years towards their conservation. Nine management plans were under various stages of review.
- The coverage of the management effectiveness evaluation of Ramsar Sites was expanded to 52 sites, with assessment at 35 sites concluded during 2024–25.
- Developed, in partnerships, tools and protocols to:
  - ground-truth, delineate, and demarcate wetlands
  - implement wetland wise use framework

- Conducted 10 training programmes for wetland managers on wetlands delineation and demarcation, integrated management, and convergence with development programmes.
- Advanced establishment of the Ramsar Regional Initiative for South Asia by co-developing a detailed blueprint.
- Conducted outreach activities for nearly 1,000 students across four States and UTs on the importance of wetlands and their role in wetlands conservation.
- Celebrated World Wetlands Day 2025 with a public event in New Delhi on February 2, 2025. Mr Jairam Ramesh, Hon'ble Member of Parliament, Rajya Sabha, was the chief guest.

Rejuvenating Wetlands for Water Security

- Conducted baseline assessments in 124 wetlands (nine in Ghaghar-Ghaghara confluence to Gomti confluence and Sone; 66 in Gandak and others; 49 in Kosi, Bhagirathi and others (Ganga Lower)) to support their integrated management and development convergence
- Of the wetlands identified as high priority for conservation in the Gangetic floodplains of Uttar Pradesh, actions initiated at three wetlands.
- The NMCG has provided a financing of ₹ 88.8 million for implementing restoration actions in the priority wetlands of Uttar Pradesh and Bihar.

Pallikaranai marsh, Tamil Nadu / © Harsh Ganapathi

Wetlands as Nature-based Solution for Disaster Risk Reduction

- Developed, in partnerships, tool to assess climate adaptation and DRR co-benefits of wetlands management.
- Prepared the basis for the launch of the India Chapter of the Global Mangrove Alliance.
- Embedded wetlands, as a pilot, in the District Disaster Management Plan of Ganjam, Odisha, working in collaboration with the District Disaster Management Authority.

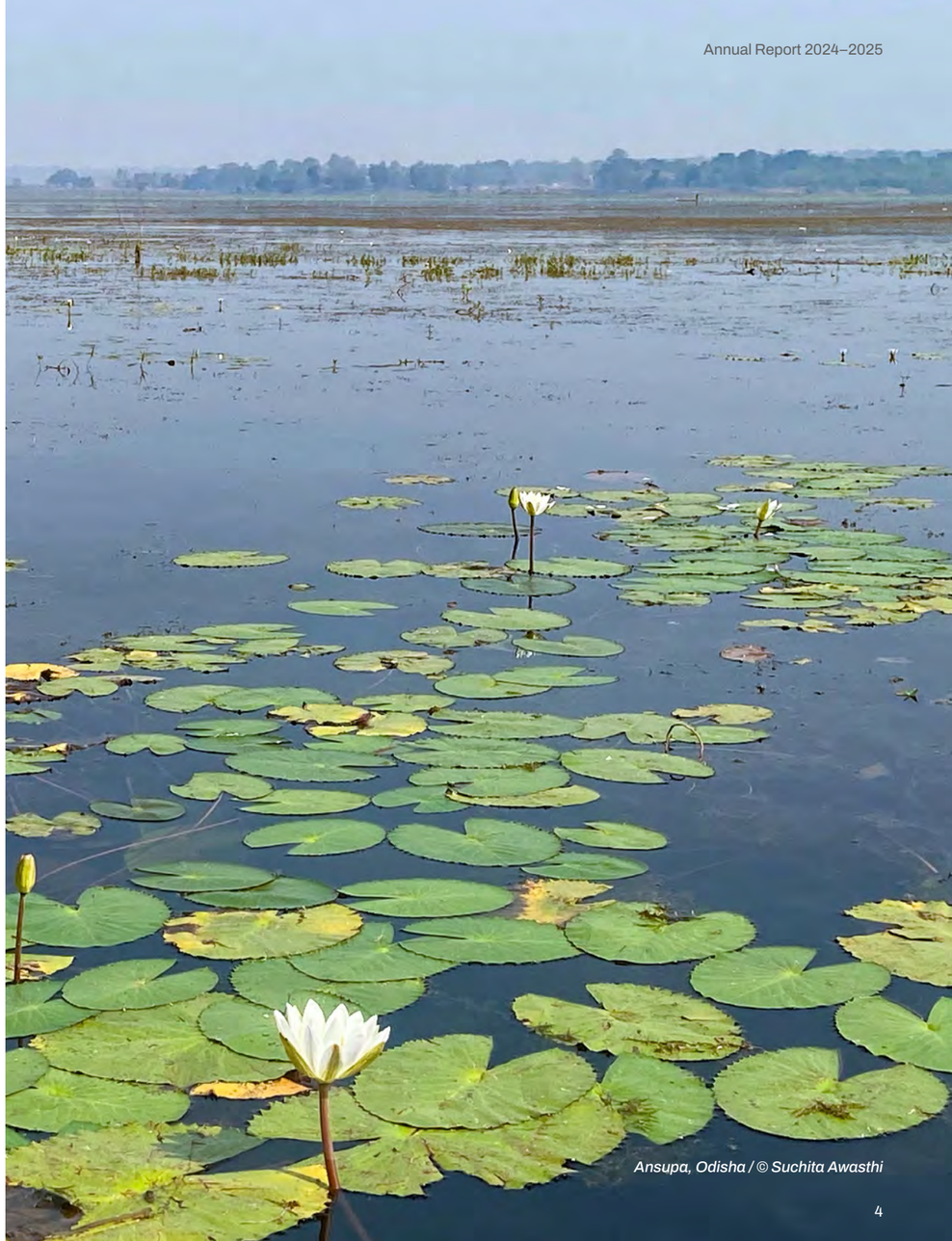
Conserving Wetlands Biodiversity

- Developed, in partnerships, tools and protocols to assess the potential of designating wetland OECMs in India.
- Conducted baseline assessments in 900 wetlands to support their integrated management and development convergence.
- Launched the 2025 mid-winter census, covering over 900 wetlands across 29 States and UTs and recording the presence of over 80% of waterbirds known to inhabit Indian wetlands.

Safeguarding Wetlands Carbon

- Prepared a peatland probability map for four biogeographic zones (Trans Himalayas, Himalayas, North East and Western Ghats) was completed.
- Developed, in partnerships, tools and protocols for the Tier 1 assessment of greenhouse gas (GHG) emissions and removals from wetlands in India.

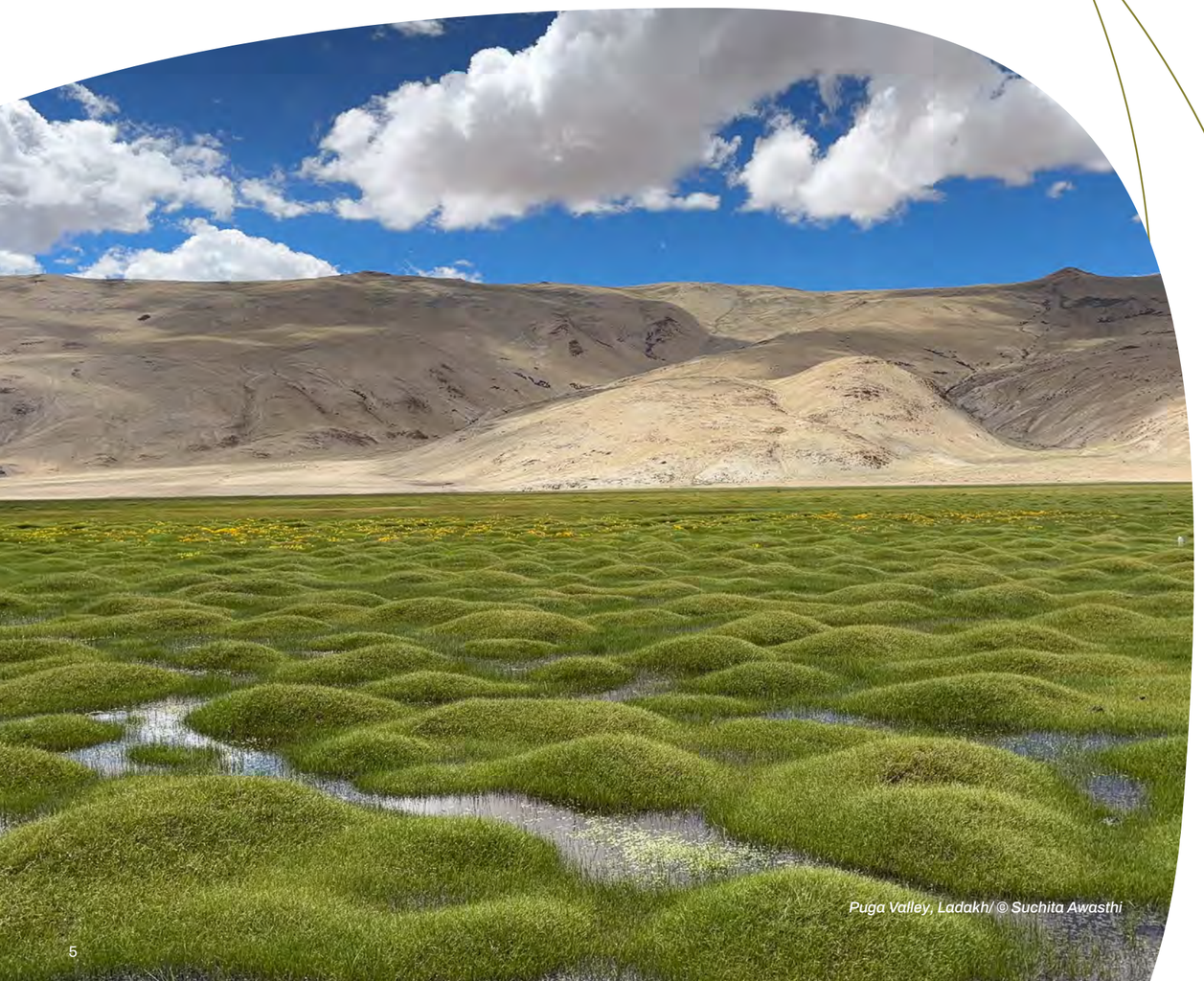
- **The 17th Annual Meeting of the General Body was held on September 26, 2024.** The annual report and audited financial statements for the period April 2024–March 2025 were adopted. In the three meetings of the Governing Body held during 2024–25, the annual plan, amendments to the human resources policy, and specification of desirable skills and qualifications for Governing Body members were considered and approved.
- **14 members added to the Society as General Body Members.** The total membership base of the society as of September 15, 2025, included 12 founding members, 13 nominated members, 1 institutional member, 31 general body members and two student members.
- **During April 2024–March 2025, the organisation received grants of ₹ 61.13 million.** Of this, ₹ 56.47 million was on account of project funds received from six donor agencies, and the balance of ₹ 4.66 million was interest earned on the reserves. The total expenditure during the year was ₹ 68.57 million.
- **The total reserves at the end of the year stood at ₹ 120.77 million.** The decrease of ₹ 0.74 million from the previous financial year is on account of the application of reserves to the implementation of projects approved by the Governing Body.



Ansupa, Odisha / © Suchita Awasthi

Programme highlight →

Safeguarding Wetland Carbon



Puga Valley, Ladakh/ © Suchita Awasthi

PROJECTS

1. Himalayan Peatlands: Inventory and Assessment

   Internal funding

2. Inventory and Assessment of Peatlands in India

   Funded by IKI-GIZ

3. Wetlands Management for Biodiversity and Climate Protection

   Funded by IKI-GIZ

A Peatland Probability Map of India

Despite the high relevance of peatland ecosystems, especially their role as carbon stores, the knowledge of their extent and condition in India remains a knowledge gap. Since July 2023, a pilot project to assess peatland extent, carbon stock and their ecological conditions in the priority biogeographic zone of India is being implemented. During 2024–25, a peatland probability map of four biogeographic zones (Trans Himalayas, Himalayas, North East and Western Ghats) was completed.

As ‘peat’ cannot be mapped remotely, peatland mapping is often based on proxies such as topographic, geomorphic, climatic, pedologic and hydrologic features that can indicate the presence of peat. In situations where no baselines are available, a peatland probability map derived using a combination of these proxies is a useful starting point to identify sampling locations wherein the presence of peat can be confirmed and the definitional thresholds applied.

A tiered approach was used for the mapping exercise, wherein five proxies, namely soil (soil organic carbon, bulk density and moisture), water (presence of surface inundation or saturation), vegetation (type and density), topography (slope and terrain driven water accumulation), and climate (land surface temperature) were used. The probability maps were refined based on habitat and soil sampling at 77 locations across 10 states and union territories within the four biogeographic zones.

Based on the analysis, the maximum probable peatland extent in the four biogeographic zones is estimated to be 310,000 ha, accounting for approximately 0.4% of their total geographical area. Notable peat presence was confirmed in Tso Kar, Hanle, Chushul (SOC%: 7–31%), Khecheopalri (peat depth: 1.2 m, SOC%: 17–39%), Chandertal (SOC%: 11–21%), Miyar Valley, Mirgund, Hokersar (peat depth: up to 4 m, SOC%: 19–42%), and Saat Tal (peat depth: 2 m, SOC%: ~17%). In the North East,

Dhruv Verma and Apoorva Thapa conducting peat sampling in Hanle Marshes, Ladakh

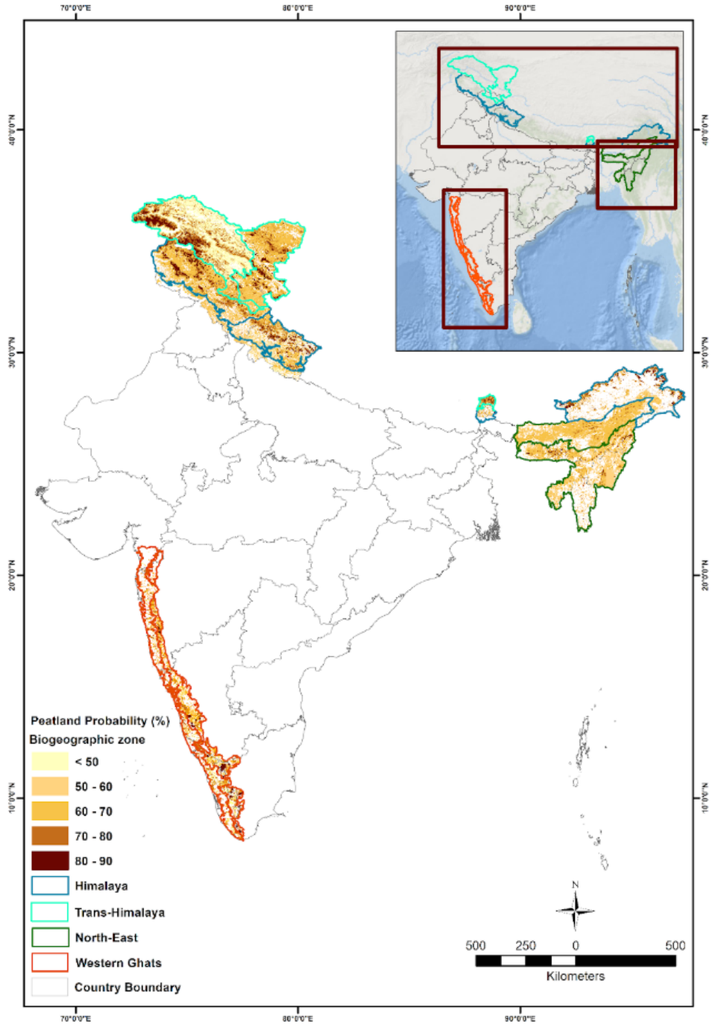
peatlands were found in Jowai meadows and Dzukou valley (peat depth: 30 cm, SOC%: 6–27%). In the Western Ghats, wet montane meadows (*vayals*) in Devikulam, Uthiran Chira, Idukki, Palakkad and Wayanad had shallow and patchy peat intermixed with mineral soils in the top 30 cm of soil (SOC%: 8–20%). Myristica swamps in Kulathupuzha and Shendurney had high organic carbon mineral soil (Figure 2).

Per-hectare carbon stock from the top one metre soil was recorded to be the highest in the Himalayas (median: 92.5 t/ha), 1.5 times greater than the Trans Himalayas (62.27 t/ha) and North East (54.73 t/ha), and nearly five times that of the Western Ghats (19.28 t/ha) (Figure 3).

The UNFCCC recommends that countries establish specific thresholds to define peatlands based on national contexts, ensuring consistency across land areas and over time. Such thresholds for India are proposed to be a minimum peat depth of 10 cm within the top one metre of soil and a minimum SOC content of eight per cent. These thresholds align with international guidelines and ensure the inclusion of shallow peatlands for conservation and management.

The findings of peatland assessments and the proposed national definition for peatlands were presented to the Indian Peatland Coalition—a group of subject matter experts and practitioners constituted under the project by MoEFCC.

In 2025–26, it is envisaged to complete the peatland probability map for the remaining priority biogeographic zones (coasts and parts of the deccan peninsula). To enhance peatland map accuracy and enable large-scale replication, advanced geospatial techniques such as machine learning



Peatland Probability Map for the Indian Himalayan Region and the Western Ghats

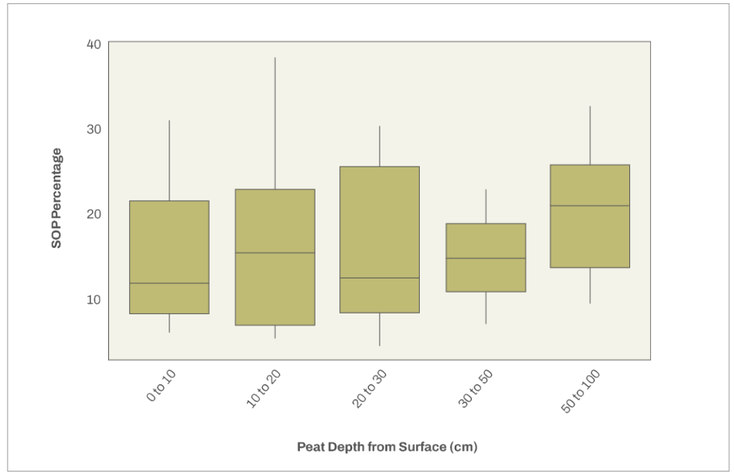


Figure 2: Soil Organic Carbon (SOC) percentage recorded at different depths within one-metre top soil at the sampled peatland sites (n > 70)

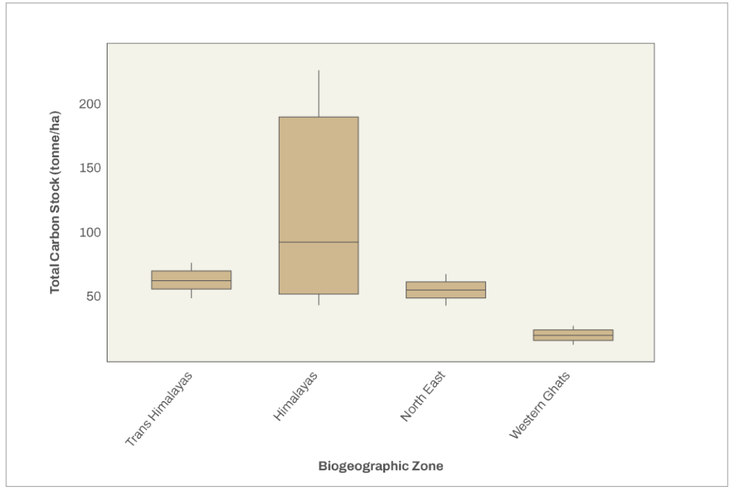


Figure 3: Carbon Stock per ha up to one metre from the surface in peatlands

Shivani Negi sampling for peat in Dzokou valley, Nagaland, along with Dr Agata Klimkowska (Senior Technical Officer, Peatlands at Wetlands International Global Office)

algorithms will be integrated into the peatland probability model. It is also proposed to initiate field restoration and management in four pilot landscapes (Chandertal in Himachal Pradesh, Khecheopalri in Sikkim, Tsokar in Ladakh, and Mirgund/Shallbugh/ Hokersar in Kashmir).

On a per-hectare basis, soil organic carbon content from the sampled peatland sites was nearly 1.75 times higher than the values reported for mangroves from the country and nearly equivalent to those reported from the forests by the Forest Survey of India. These estimates are likely to be refined as further sampling for peatlands in different biogeographic zone is conducted in the coming year.

Contribution of Wetlands to GHG Emissions and Removal: Tier 1 Assessment

Wetlands play a dual role in the global carbon cycle, acting both as carbon sinks and sources of greenhouse gases (GHGs), particularly methane (CH_4) and nitrous oxide (N_2O). Inland wetlands and coastal ecosystems such as mangroves, seagrasses, and tidal marshes sequester significant amounts of organic carbon over long timescales. However, these ecosystems can also emit GHGs due to anaerobic conditions, nutrient loading, and hydrological changes. Whether a wetland acts as a net source or sink depends on several ecological variables, including water levels, oxygen availability, vegetation type, and nutrient dynamics. To support climate mitigation efforts, it is therefore essential to quantify the balance or partitioning between carbon sequestration and GHG emissions at an ecosystem scale.

Under the commitments to the United Nations Framework Convention on Climate Change (UNFCCC), countries are required to estimate and report GHG emissions and removals using scientifically robust and internationally accepted methodologies developed by the Intergovernmental Panel on Climate Change (IPCC). For wetlands, the IPCC has provided guidelines in the 2006 supplement, which have been subsequently updated through the 2013 supplement and 2019 refinement. A tiered approach is suggested, wherein the coarsest Tier 1 is based on default emission factors combined with activity data on laundress change and management. Tier 2 and Tier 3 assessments offer increasingly accurate and site-specific estimates of GHG emissions and removals. Since 2024, Parties are expected to provide their national GHG inventories as a part of the Biennial Transparency Reports (BTRs), which also include progress towards NDCs, policies and measures, climate change impacts and adaptation, levels of financial, technology development and transfer and capacity-building support, capacity-building needs and areas of improvement.

India submitted its Initial National Communication (INC) to the UNFCCC in 2004, entailing an emissions inventory of 1994, wherein trends in GHG emissions and removals since 2008 are reported. The coverage of wetlands has been marginal, with only mangroves being considered in the carbon stocks. This severely undermines the possibility of integrating wetlands in climate change mitigation targets.

A Tier 1 national-level assessment was conducted to estimate greenhouse gas (GHG) emissions and removals from wetlands in India using the methodologies outlined in the *IPCC 2006 Guidelines*, the *2013 Wetlands Supplement*, and the *2019 Refinement*. The results suggest (Figure 4 and Figure 5) that wetlands in India contribute to the removal of approximately 0.84 Mt of CO_2 and 0.51 Mt of other GHGs (CH_4 and N_2O), while also releasing about 0.12 Mt of CO_2 primarily due to land-use changes such as drainage, which have led to substantial carbon losses from mangroves and tidal marshes. Restoration interventions, including rewetting and revegetation, contributed significantly to carbon removals. Inland wetlands, particularly tropical peatlands, emerged as key sources of both CO_2 and N_2O, with mineral soils also showing considerable CH_4 emissions. In coastal wetlands, drainage has driven carbon losses, whereas restoration practices have helped in offsetting emissions. Aquaculture systems are notable N_2O emitters, while flooded lands, especially reservoirs older than 20 years, are significant CH_4 sources.

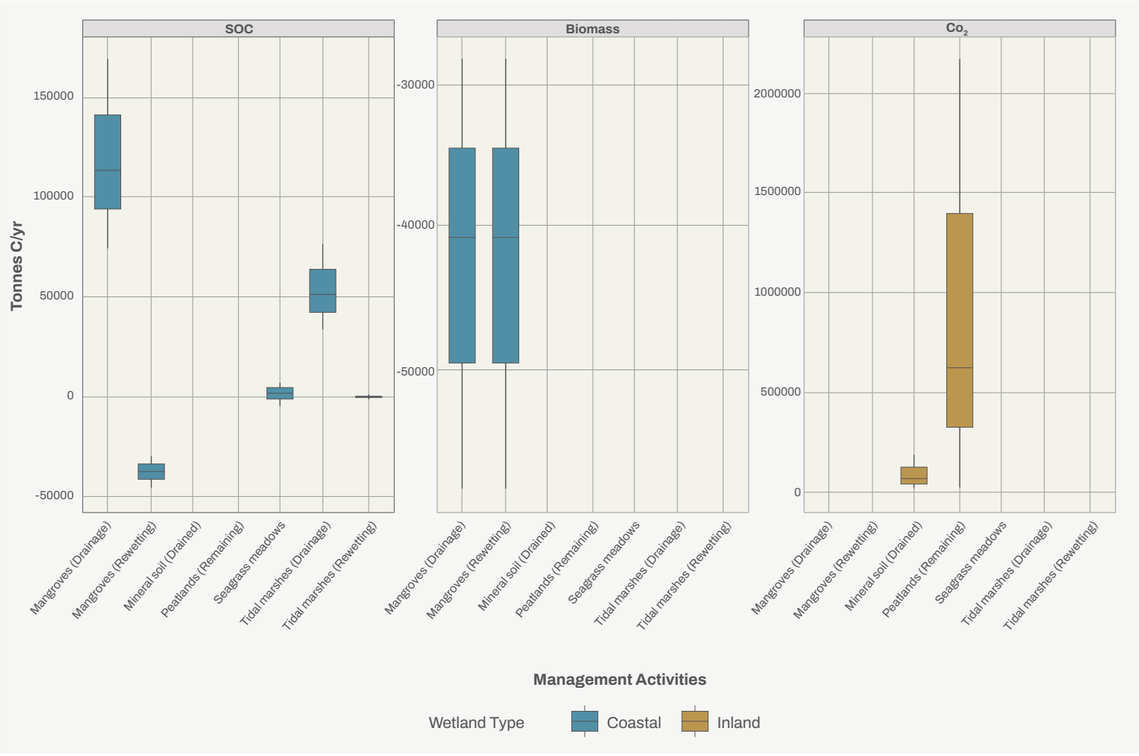


Figure 4: CO_2 emission and removal by wetland management activities

In the coming year, the organisation will work to further improve the estimates using emission factors derived from Indian wetlands. It will continue to work with the MoEFCC to secure inclusion of wetlands in the national GHG inventory and overall climate change mitigation actions.

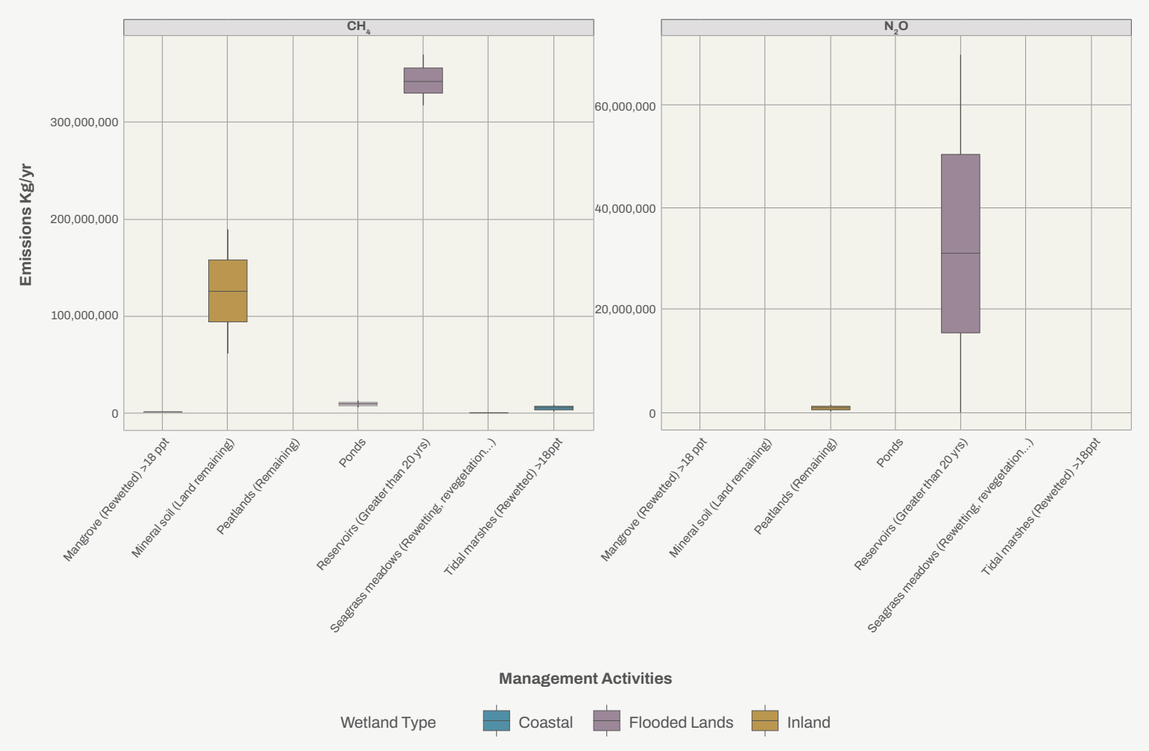


Figure 5: Non-CO_2 emission by Wetland management activities

TEAM • Dhruv Verma • Shivani Negi • Dayadra Mandal • Apoorva Thapa • Arif Ahmad • Anil Fartiyal

Devikulam wetland, Kerala / © Dhruv Verma

Programme highlight →

Strengthening Integrated Wetlands Management

Glaw Lake, Arunachal Pradesh / © Harsh Ganapathi

PROJECTS

1. Wetlands Management for Biodiversity and Climate Protection
   Funded by IKI-GIZ
2. Integrated Management of Wetlands Biodiversity and Ecosystem Services
   Funded by MoEFCC-GEF-UNEP
3. Protection and Sustainable Management of Aquatic Resources in the North Eastern Himalayan Region of India
   Funded by GIZ-India

Progressing Integrated Management Plans

Management Plans Approved

During 2022–24, Wetlands International South Asia prepared Integrated Management Plans (IMP) for Loktak Lake (Manipur) and Gokul Jalashay (Bihar). The MoEFCC, under the NPCA scheme, approved the implementation of both of these plans for five years.

A significant recommendation of the *Loktak Lake Management Plan* is the implementation of the water allocation plan to balance the ecological water requirements with those of hydropower production. Wetlands International South Asia, working with the Loktak Development Authority (LDA) and other stakeholders, proposed a water allocation plan in 2012 to secure the health of the Loktak ecosystem while also accommodating water needs for hydropower generation and irrigation. The plan, however, was not implemented for various reasons, and the organisation continued to pursue this matter at various levels. A decision to reduce the water levels at Ithai Barrage in the winter months to benefit the habitat of Keibul Lamjao National Park was taken in a meeting convened by the MoEFCC with the officials of the National Hydroelectric Power Corporation, the Ministry of Power, the Central Water Commission, and LDA on November 23, 2023. Monitoring water levels and subsequent updation of the water allocation plan are the core thrust of the management plan implementation.

The management plan also proposes a reorganisation of LDA to address gaps in institutional capacity required for ensuring maintenance of the ecological character of Loktak while ensuring mainstreaming of the full range of ecosystem services in developmental plans and programmes. Concurrent with the management plan approval, Wetlands International South Asia has proposed a revised organisation structure of LDA. The revised structure includes three new units dedicated to wetlands monitoring, community engagement, and communications and outreach to the four existing units related to planning and design, water management, watershed management, and general administration. The Government of Manipur has accepted the recommendations of the reorganisation.

Management Plans Progressed

During the current year, the Integrated Management Plans for Deepor Beel (Assam), Sasthamkotta (Kerala), Kabartal (Bihar), Wular (Jammu and Kashmir), Gobind Sagar (Himachal Pradesh), Tampara (Odisha), and Glaw (Arunachal Pradesh) were progressed. In addition, Framework Management Plans for Tso Kar and Tsomoriri (Ladakh) were concluded.

In September 2024, Wetlands International South Asia submitted the draft IMP for Deepor Beel to the Assam State Wetland Authority for final endorsement. The management plan recommends interventions under six components, namely, institutions and governance, catchment conservation and management, water management, species and habitat conservation, sustainable wetland livelihoods and nature tourism. The final draft IMP was submitted to the Assam State Wetland Authority for their comments and suggestions. Subsequently, two meetings were convened by the Special

Chief Secretary (Forest), Government of Assam, in February and March 2025 to discuss the management recommendations. Specific attention was drawn to the need for delineating a wetland boundary and preserving the land use in line with the provisions of Wetlands (Conservation and Management) Rules, 2017. Following the meetings, the Government of Assam has initiated a boundary delineation and demarcation involving the Space Applications Centre and departments of revenue, forests, and fisheries. The finalised boundary is to be incorporated in the management plan.

The updated management plan for Kabartal (Bihar) for 2025–2030 was submitted to the Bihar State Wetland Authority in November 2023. The management plan was discussed and approved at the fourth meeting of the Bihar State Wetland Authority held in September 2024 and has been forwarded to the MoEFCC for financial support.

The updated management plan for Sasthamkotta (Kerala) for 2025–2030 was submitted to the State Wetland Authority Kerala (SWAK) in December 2024. The SWAK convened the final stakeholder consultation with the line departments and local self-government in June 2025 and subsequently approved the management plan through its Technical Committee in July 2025.

The Integrated Management Plan for Gobind Sagar (Himachal Pradesh) was finalised in 2024–25 and is currently under review by the Site Manager and the State Wetland Authority. The plan outlines a comprehensive framework for wetland conservation, encompassing catchment protection, water allocation efficiency, species and habitat conservation, sustainable fisheries management, and the promotion of nature-based tourism. A structured wetland monitoring protocol has also been developed as part of the plan.

Tampara, a scenic freshwater lake located on the shorelines of Odisha in Ganjam district, forms a critical flood buffer to the region as well as a source of freshwater for Chhatrapur town. The wetland forms a part of the narrow channel connecting the Rushikulya river and Chilika to support the transportation of goods along the coast. In October 2021, Tampara was designated as Wetlands of International Importance under the Ramsar Convention on Wetlands. In recent times, the wetland has been stressed by unmanaged tourism, with the Department of Tourism constructing several permanent

Wetlands International South Asia and Chilika Development Authority are collaborating to put in place an integrated management plan for Tampara—Odisha's Ramsar Site. A multi-stakeholder workshop was convened in December 2024 to identify priority actions for conserving the Ramsar Site

Wetlands International South Asia team (Harsh Ganapathi, Nikita Mishra, and Dayadra Mandal) conducted field data collection for management planning of Glaw lake, Arunachal Pradesh, along with Forest Department officials of the Kamlang Tiger Reserve

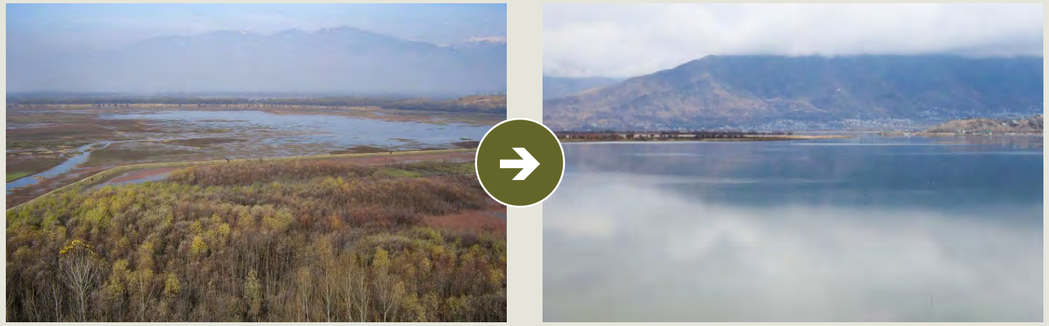
structures within the wetland boundary. During the year, Wetlands International South Asia drafted an Integrated Management Plan for the Ramsar Site. The recommendations include measures for maintaining naturalness and habitat connectivity of the wetland regime and rationalising tourism and other developmental pressures within the wise use principle. The management plan is currently under review by the Odisha State Wetland Authority.

Within the framework of collaboration with the Department of Environment, Forest and Climate Change, Government of Arunachal Pradesh, Wetlands International South Asia undertook framing of an Integrated Management Plan for Glaw, a near-pristine wetland located within the densely forested catchments of the Kamlang Tiger Reserve. A field mission to collect data for management planning was undertaken in December 2024, and a draft management plan was submitted to the Department in February 2025. The final management plan, incorporating the comments received from the State Government, will be submitted by September 2025.

In 2024–25, Wetlands International South Asia prepared Framework Management Plans (FMP) for Tso Kar and Tsomoriri, the two high-altitude Ramsar Sites in India, both located in the Union Territory of Ladakh. As per the NPCA 2024 guidelines of the MoEFCC, the FMP is a supplementary step towards the development of comprehensive integrated management plans of wetlands for conservation and wise use. The FMP of these two sites identify critical and time-sensitive no-regret actions needed to address emerging threats to these wetlands and support the implementation of the *Amrit Dharohar* initiative. Each FMP document includes a detailed profile of the wetland, outlines specific management objectives, and provides a structured framework and action plan to guide conservation and wise use. The UT Government of Ladakh approved the Framework Management Plans for Tso Kar and Tsomoriri in a consultation meeting held on November 7, 2024 at Leh, and have been submitted to MoEFCC for approval.

Officials of various line departments and the Indian Army jointly reviewed and approved the Framework Management Plans of Tso Kar and Tsomoriri in a meeting held in November 2024 at the office of the Wildlife Warden, Leh, Ladakh

Revisiting Management of Wular, Kashmir



Aerial view of Wular at Bandipore in 2006 (left) and 2024 (right). The landscape has changed drastically with the removal of Willow trees and dredging.

Nestled within the Kashmir Valley and flanked by the Great Himalayas and the Pir Panjal Mountain ranges, Wular is a floodplain wetland of the River Jhelum, sprawling 18,900 ha in the districts of Bandipora and Baramulla of Jammu and Kashmir. Wular, along with its eight associated wetlands (Haigam, Hokarsar, Mirgund, Rakh Asham, Rakh Malgam, Shallabugh, Vijipore and Rakh Arat), forms an intricate hydrological regime buffering system that protects Srinagar and its downstream reaches from the risk of floods and droughts. A rich harvest of fish and wetland plants sustains the livelihoods of 30 villages located on the shorelines. Wular provides habitat to at least 100 plants and 135 animal species. In the winter, the wetland teems with waterbirds migrating along the Central Asian Flyway, providing critical habitats for over 30 species, including the globally vulnerable Common Pochard (*Aythya ferina*). The panoramic blue waters nestled within lush green mountains make Wular a spectacular sight to behold, attracting over 10,000 tourists annually.

Developmental activities in the Kashmir Valley have failed to recognise the full range of ecosystem services and the biodiversity value of Wular and its associated wetlands. The current regime of the wetland complex is a fragment of what existed at the turn of the 20th century, with most of the marshes having been reclaimed for agriculture and willow plantations. The lack of adequate waste management facilities in the upstream regions of Wular has led to the wetland becoming a receptacle for untreated sewage and solid waste. Construction of embankments has altered the natural flow regimes and the connectivity between the river and wetland. The impacts of climate change are evident throughout the western Himalayas, where receding glaciers and warming temperatures are gradually

Wular sustains the livelihood of around 6,000 fishers. Umang Agnihotri and Arif Ahmad conducted interviews of women fisherfolk to understand their views and perceptions of Wular management

Dr Sidharth Kaul, along with Dr Ritesh Kumar and Apoorva Thapa, interacting with officials of WUCMA during a visit to Wular Lake, Kashmir, in August 2024

yet conspicuously altering the overall hydrology and the distribution and ranges of linked species, ultimately increasing the vulnerability of communities in various ways.

In 2007, Wetlands International South Asia prepared a Comprehensive Management Plan for the rejuvenation of Wular. The management plan was structured into seven components: survey and demarcation, catchment conservation, biodiversity conservation, ecotourism development, sustainable resource development, livelihood improvement, and institutional development. The overall outlay was projected to be ₹ 3,863.9 million for five years. The action plan envisioned establishing the Wular Development Authority as the nodal institution for coordinating the implementation of the management plan. A critical recommendation was to remove willow plantations from the wetland to regain the lost hydrological capacity.

The plan was approved in 2007 and implemented during 2012–24 with financial support of the 13th Finance Commission, the erstwhile National Wetland Conservation Program of MoEFCC and state funds. The establishment of a dedicated institution for Wular was undertaken only in 2012, wherein the Wular Conservation and Management Authority (WUCMA) was notified by the GoJ&K as a dedicated institution for the preservation and conservation of Wular.

The entire 84 km perimeter of the wetland has been demarcated with the installation of 1,159 geo-tagged boundary pillars. Of the 27 km² of critically silted zones identified in the CMAP (2007), dredging operations have been completed on 4.55 km² to restore hydrological connectivity and improve water retention capacity. A 6 km length of Naaz Nallah, a feeder channel of Wular, has been dredged. Soil and water conservation measures were implemented in 1,732 ha of the direct catchment, including the plantation of over 0.19 million saplings. A total of 0.12 million willow trees have been removed from the wetland system, out of an estimated 2.1 million trees.

The management plan implementation has yielded several positive outcomes. Dredging and removal of willows have led to an enhancement of the Wular's water-holding capacity by approximately 20 million cubic metres. Indian lotus beds can be seen in Wular after nearly three decades. The open water expanse has also increased. The number of waterbirds recorded during the mid-winter census has increased from 0.1 to 0.3 million during 2019–25.

However, Wular continues to face challenges. In recent years, tourism and recreational activities around Wular have been increasing steadily. The waste management challenges have only compounded, and heaps of plastic waste are conspicuous at several places upstream and around the Ramsar Site. The devastating 2018 Kashmir floods have also brought into focus the need for prioritising the flood buffering capacity of the wetlands to prevent damage to life and property in the Kashmir Valley.

At the request of WUCMA, Wetlands International South Asia is preparing an integrated management plan for the period of 2025–2030. The management plan formulation was initiated with a multi-stakeholder consultation in August 2024. Ecological, hydrological and socio-economic assessments of Wular and its surrounding villages were held from September 2024 to March 2025. Based on the assessments and stakeholder consultations, a draft framework has been formulated, outlining measures for enhancing water holding capacity, conserving catchments through targeted microshed interventions, conserving and monitoring biodiversity with a focus on native fish species, promoting sustainable ecotourism, empowering local communities through livelihood enhancement, and strengthening institutional capacity for effective management. The final management plan is currently under review by the Jammu and Kashmir government and is scheduled for publication by 2025.

A National Framework for Wetlands Wise Use

The wetland wise use concept, introduced in the text of the Ramsar Convention, is the central tenet of wetlands conservation and management. The concept stands out as the longest-established example among intergovernmental processes of the application of the ecosystem approaches for the conservation and sustainable development of natural resources. Despite the centrality of the wise-use concept, vagueness remains in the meaning of the wise-use term and its application in wetland management. During the year, an implementation framework for achieving wise use of wetlands in the Indian context was developed.

The implementation framework delves into the three building blocks of the wise use concept, namely, the ecological character, ecosystem approach, and sustainable development (Figure 1). The framework also provides guidance on distinguishing wise and unwise use of wetlands, recommending the use of three decision filters, namely, impacts on ecological character, impacts on wetland communities, and institutional basis of intervention design. Actions at multiple levels needed for achieving wise use, including direct implementation involving wetlands catchments, river basins, and coastal zones; policies and regulations related to wetlands and connected sectors; and an enabling environment to support effective implementation of policy and regulations have been outlined. The wise use implementation framework was launched by the MoEFCC in October 2025 and made available on the national wetlands portal. The document is available at *https://indianwetlands.in/wp-content/uploads/library/1729858283.pdf*.

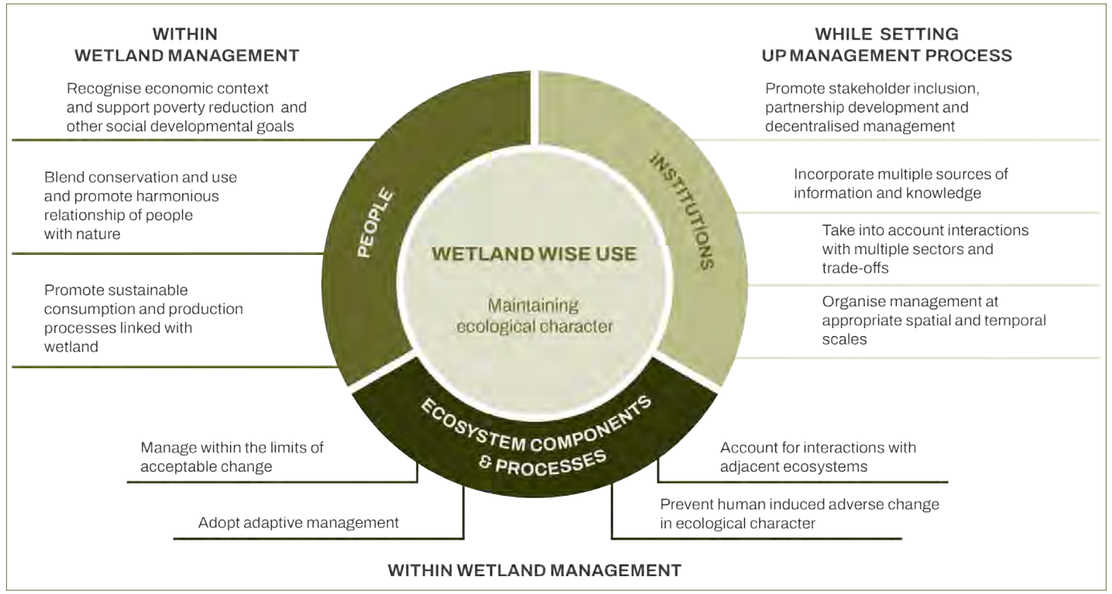


Figure 1: The three building blocks of wetland wise use

Participants at the METT Workshop held in Kerala in January 2025 for Ramsar Sites managers of the South Indian states

Management Effectiveness Assessment of Ramsar Sites

Management effectiveness tracking is an essential tool to monitor and assess the progress of the management practices in achieving desired outcomes. In 2024, Wetlands International South Asia, in collaboration with GIZ, developed a practitioner's guidebook on the management effectiveness tracking tool (METT) for Indian wetlands. The tool is structured around responses to 34 questions which relate to the aspects of planning, inputs, process, and outputs and outcomes. As part of the *Amrit Dharohar* initiative, the MoEFCC envisages establishing a METT score baseline for all Ramsar Sites by 2026, with subsequent biennial reviews.

Category	Number of Ramsar Sites				
	Overall	Planning	Input	Process	Output and Outcomes
Excellent	**3**	7	5	6	3
Good	**10**	16	5	9	18
Moderate	**22**	19	18	17	16
Low	**12**	7	18	13	8
Very Low	**5**	3	6	7	7

Number of Ramsar Sites within various categories of METT scores

Till March 2024, METT assessments were completed for 17 Ramsar Sites. During 2024–25, the coverage of METT was expanded to 52 Ramsar Sites, with assessments in 35 sites. Four regional workshops were also held during the year to familiarise wetland managers with the application of METT and to develop measures for enhancing management effectiveness.

Of the 52 sites covered to date, METT scores for three sites fall within excellent category (score above 85%), 10 sites under good category (score between 65% and 85%), 22 under moderate category (50% and 65%), 12 sites in low (score between 35% and 50%), and five in very low category (score below 35%). During 2025–26, the coverage of METT would be expanded to all Ramsar Sites. Through the NPCA, the organisation will work with the MoEFCC and Wetland Authorities to undertake measures for enhancing the management effectiveness of sites classed as moderate and below.

Support to Wetland Authorities

Wetlands International South Asia continues to work proactively with State/UT Wetland Authorities to provide support to various facets of wetlands management. Presently, the organisation is represented in the wetland authorities of NCT of Delhi, Madhya Pradesh, Bihar, Uttar Pradesh, and Haryana.

The Supreme Court of India in December 2024 directed the Wetland Authorities to complete ground truthing and boundary demarcation of wetlands included in the National Wetland Atlas. Along with the knowledge partners of the MoEFCC, Wetlands International South Asia assisted in developing a protocol for the purpose. The organisation also conducted training for the wetland authorities of Arunachal Pradesh, Kerala, Odisha, and Chhattisgarh for implementing the protocol.

Capacity Development for Integrated Wetland Management

The competency mapping for integrated wetland management conducted during 2023–24 resulted in identification of five priority areas, namely, regulatory and policy frameworks related to wetland management, designing adaptive management strategies, interventions for maintaining wetland ecological character, institutional development for wetland wise use, and development of management framework, including goals, purpose, objectives, and performance indicators.

The outcomes of the competency mapping were used to develop an e-curriculum framework to support integrated wetland management. The curriculum proposes to have four types of modules, which introduce broadly the aspects of wetlands conservation and integrated management planning (introductory module) and wetland management planning process and implementation (core module). In addition, modules on specific themes (climate risk assessment, wetland restoration, nature tourism, sustainable wetland livelihoods) and ecosystem and management types (high altitude, coastal, urban, and wetland protected areas) have been identified to complement the introductory and core modules. The module structure was finalised in a consultative workshop held at the MoEFCC on August 23, 2024, along with Wetland Authorities, NGOs, research institutions, and site managers. In the coming year, the core modules will be developed.

The association with the National Institute of Rural Development and Panchayati Raj (NIRDPR) to promote consideration of wetlands in development plans and programmes of the local self-government was continued during the year. A training session on Integrated Wetland Management was conducted on February 3–4, 2025, for the concerned

National consultation workshop on developing an e-curriculum to support integrated wetland management held at the MoEFCC on August 23, 2024

Participants at the training workshop on integrated wetland management organised by NIRDPR and GSWA at Goa in February 2025. Suchita Awasthi (seated bottom right) conducted the training session

line departments of the Government of Goa. The session was attended by more than 50 participants representing the departments of settlement and land records, town and country planning, fisheries, agriculture, biodiversity management committees, and the students of Carmel College of Arts, Commerce, and Science.

Support to the National Wetlands Programme

Wetlands International South Asia is a knowledge partner to the Wetlands Division of the MoEFCC and provides support to the implementation of the national wetlands programme. Major contributions during the year included the compilation of the National Report to the Ramsar Convention and developing the first draft of the resolution on sustainable lifestyles for wetland wise use for presentation at the Ramsar COP15. The organisation also supported the documentation and compilation of the Ramsar Information Sheets for nine Ramsar Sites. These wetlands were designated as Wetlands of International Importance by the Ramsar Convention in the year. The number of Ramsar Sites in the country increased from 82 to 91 during 2024–25. Wetlands International South Asia supported the Ramsar City Accreditation proposal for two cities, namely, Bhopal and Indore (Madhya Pradesh). Of the two proposals, Indore was accredited as a Ramsar Wetland City in January 2025.

Firming up the South Asia Regional Initiative

In December 2023, Wetlands International South Asia, in collaboration with the International Centre for Integrated Mountain Development (ICIMOD), held a meeting of the representatives of the Ramsar National Focal Points of South Asia to develop the framework of the South Asia Regional Platform. The overall ambition of establishing this platform is to support the implementation of the Ramsar Convention Commitments and share wetland management best practices for conservation and wise use of these ecosystems.

During the year, the framework was consolidated into a *South Asia Ramsar Regional Initiatives* proposal based on the guidance document of the Ramsar Convention. The overall proposal would be discussed with the Contracting Parties at the 15th Meeting of the Conference of the Parties of the Convention.

TEAM • Suchita Awasthi • Dr Asghar Nawab • Dhruv Verma • Ravi Prakash • Kalpana Ambastha • Apoorva Thapa • Kamal Dalakoti • Preethi Vasudevan • Arif Ahmad • Anil Fartiyal • Aditi Patial • Umang Agnihotri • Bhuyashee Rajkumari • Dayadra Mandal • Nikita Mishra

The work of Wetlands International South Asia has led to mobilisation of resources towards implementation of wetland conservation actions. The management plans approved for financing have led to a commitment of **₹ 1,500 million** for the coming five years for Loktak Lake, Manipur and Gokul Jalashay, Bihar. In addition, the National Mission on Clean Ganga has financed **₹ 88.8 million** for conservation of four riverine wetlands in Uttar Pradesh and Bihar.

Thol Lake Wildlife Sanctuary, Gujarat / © Suchita Awasthi

Programme highlight →

Rejuvenating Wetlands for Water Security

East Kolkata Wetlands, West Bengal / © Harsh Ganapathi

PROJECTS

1. Conserving and Sustainably Managing Gangetic Floodplain Wetlands of Bihar

   Funded by NMCG-DoEFCC

2. Conserving and Sustainably Managing Three Priority Wetlands

   Funded by NMCG-UPSWA

Inventorising Floodplain Wetlands of River Ganga in Bihar

In October 2023, with the financial support of NMCG and in collaboration with the Environment, Climate Change & Wetlands Wing of the Department of Environment, Forest & Climate Change, Bihar, Wetlands International South Asia launched a project aimed at developing an integrated plan for the conservation and wise use of floodplain wetlands of the River Ganga in Bihar. The project entailed the assessment and development of a functional inventory of floodplain wetlands of the River Ganga and the development of an integrated wetlands conservation and management plan. During the year, the inventory and management planning for floodplain wetlands located within a 10 km buffer of the river channel flowing through 12 districts of Bihar was completed.

The Gangetic floodplain region in Uttar Pradesh and Bihar comprises an active floodplain of 3,68,286 ha bordered by the inactive floodplain stretch spanning 7,96,664 ha. The active floodplain region is characterised by continuous formation and disappearance of wetlands primarily in response to variations in river hydrology and sedimentation processes. Trends in wetland extent were analysed for the region lying outside the active floodplain zone, wherein 39,245 wetlands spanning an area of 66,936 ha were mapped. A majority of these wetlands (90%) have an area of less than one hectare. During 2008–2023, the area of wetlands has declined by 9%.

For site-scale assessments, 124 wetlands (nine in Ghaghar-Ghaghara Confluence to Gomti Confluence and Sone; 66 in Gandak and others; 49 in Kosi, Bhagirathi and others(Ganga Lower)) were selected using a stratified sampling approach. In sub-basin Ghaghar, Ghaghara Confluence to Gomti Confluence and Sone, wetlands were recorded to be largely seasonally inundated, whereas in sub-basin Gandak and others 48% wetlands were recorded to be permanently inundated and 20% as seasonally waterlogged, while in sub-basin Kosi, Bhagirathi and others 50% of the surveyed wetlands were recorded to be ephemeral in nature.

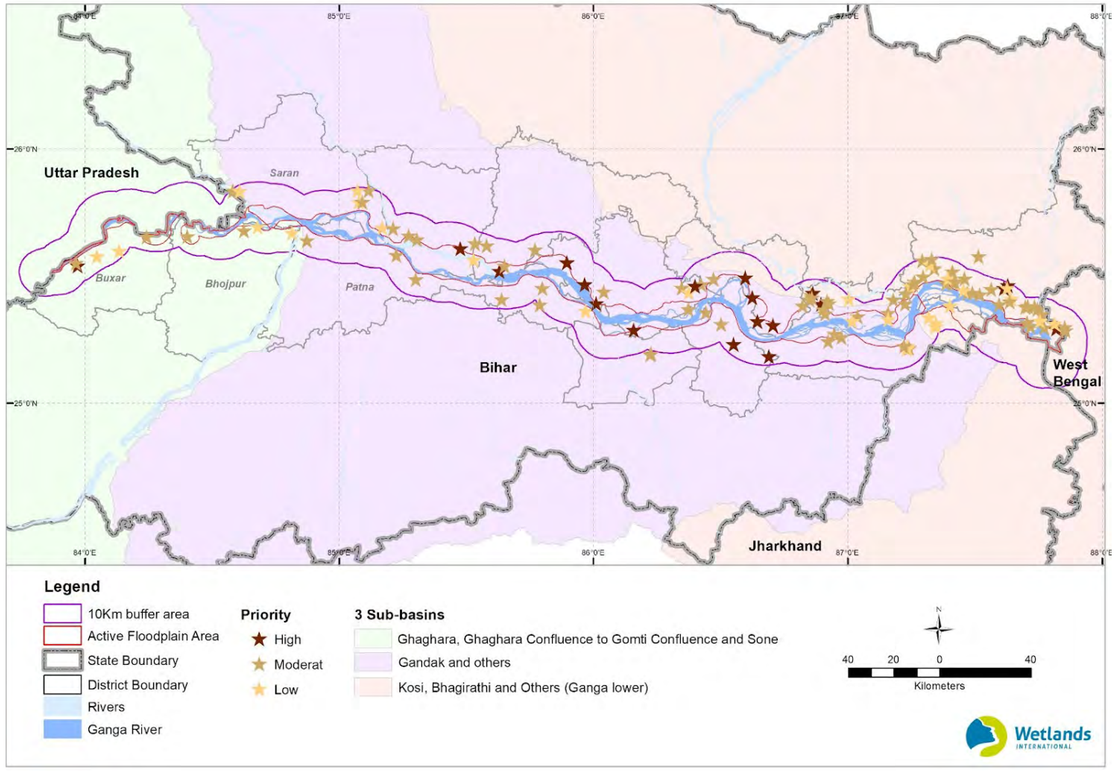
It was observed that wetland vegetation is being severely affected by habitat loss and fragmentation. Since wetlands are being cleared for farming, runoff from agricultural fields is forming the main source of non-point pollution, giving rise to the spread of invasive plant species, such as Water Hyacinth (*Eichhornia crassipes*), Hornwort (*Ceratophyllum demersum*), Alligator Weed (*Alternanthera philoxeroides*) and Hydrilla (*Hydrilla verticillata*). In the present study, 50 wetland floral species representing 34 families have been identified. Maximum variation in plant species distribution was recorded in sub-basin Kosi-Bhagirathi and others, with high occurrence (48%) of moisture-loving hydrophytes and low occurrence (4%) of submerged hydrophytes.

Of the rich faunal species occurrence reported from across the three Gangetic sub-basins, nine species of high global conservation significance were recorded in the present study. Species richness was recorded as high in permanently and seasonally inundated wetlands as compared to seasonally waterlogged wetlands. Thus, water permanence formed the key factor effective in improving habitat quality by maintaining suitable corridors linking habitats for free movement and re-colonisation of species such as Marsh Crocodile (*Crocodylus*

palustris), juveniles of Gharial (*Gavialais gangeticus*), and the Smooth-coated Otter (*Lutrogale perspicillata*). Occurrence of invasive fish species such as Common Carp (*Cyprinus carpio*), Chinese Carp (*Ctenopharyngodon idellus*), and Nile Tilapia (*Oreochromis niloticus*) was also recorded.

Perception assessment of ecosystem services of the surveyed floodplain wetlands revealed that in terms of regulating services, more than 50% wetlands retain water, thus recharging groundwater and supporting agriculture during lean seasons, while 11% significantly buffer extreme events such as floods. In terms of provisioning services, 18% wetlands support agricultural activities, including fisheries. Cultural services are provided by 24% of surveyed wetlands, which are revered for their spiritual and religious values and local ritualistic purposes.

Major threats to floodplain wetlands range from extensive hydrological regime fragmentation to expansion of linear infrastructure and conversion for permanent agriculture. Change in physical regime was recorded highest in wetlands in sub-basins Gandak and others, and Kosi-Bhagirathi and others.



Surveyed wetlands under different categories of priority in the 10 Km buffer zone on either side of the River Ganga in sub-basin Ghaghar-Ghaghara Confluence to Gomti Confluence and Sone, Gandak and others, Kosi, Bhagirathi and others (Ganga Lower) in Bihar

Several floodplain wetlands along the River Ganga are used for rice cultivation. Dr Asghar Nawab, and Kamal Dalakoti, along with the officials of the Forest Department, Government of Bihar conducting mapping and survey of Lohandiya, a floodplain wetland in Buxar district, Bihar

Over-harvesting of natural resources (fish) and abstraction of water were also recorded as dominant threats in all the wetlands surveyed across the three sub-basins, being highest in sub-basin Gandak and others.

For site management planning, the surveyed wetlands in the three sub-basins were categorised into four categories:

a. **Ponds**: wetlands less than five hectares, largely fall within the jurisdiction of a Gram Panchayat and funds are earmarked as part of the village development plan. These can also be privately owned;

b. **Urban and Peri-Urban Wetlands**: wetlands within urban limits and are managed by municipalities unless privately owned;

c. **Agricultural Floodplains**: wetlands occupying peripheral areas around villages and rivers, many serve as buffer zones and as connectors and migration corridors between national parks, wildlife sanctuaries and reserved and protected forests;

d. **Wetland Production Systems**: wetlands used for fisheries either without any lease or leased by the State Department of Fisheries or by the Gram Panchayat.

To implement management interventions across the three sub-basins, of the 124 surveyed wetlands, 19 wetlands were categorised as high-priority due to their high ecosystem functionality and services and coupled with significant threats, 76 wetlands were categorised as moderate-priority due to their high ecosystem functionality and services but with low threats or low ecosystem functionality and services with high threats while 29 wetlands were categorised as low priority characterised by both low ecosystem functionality and services and low threats.

Based on the findings of the inventory, the NMCG has advised the Government of Bihar to submit proposals for conserving wetlands listed as high priority in the inventory exercise. The first of these projects, for Nathmalpur Bhagad (wetland) in Bhojpur district, was approved for implementation by NMCG in February 2025. The project is to be completed by 2029 in two phases. Wetlands International South Asia will provide technical support in implementing the project and in developing an Integrated Management Plan for the wetland site.

Rejuvenating Floodplains Wetlands of River Ganga in Uttar Pradesh

The recommendations of the River Ganga floodplain wetlands inventory project for Uttar Pradesh, conducted by Wetlands International South Asia and Uttar Pradesh Forest Department (UPFD) during 2020–2022, are being implemented in the form of initiating conservation actions for prioritised wetlands.

During the year, Wetlands International South Asia supported UPFD in preparing project proposals for conservation and integrated management of three prioritised wetlands, namely Kalewala Jheel, Muzaffarnagar district, Numaiya Dahi Jheel-Kheduva Taal, Prayagraj district and Dahtal Reoti wetland, Ballia district. The three proposals underwent due review by the NMCG and were finally approved for implementation in June 2022. The proposals are to be implemented during 2023–2026. WISA is providing hand-holding support for the implementation of these projects and is also assisting UPFD in further replication and upscaling of the initiative.

Dahtal Reoti, Ballia district—A priority Gangetic floodplain wetland identified for rejuvenation by the UPFD with financial support from the NMCG

TEAM • Dr Asghar Nawab • Ravi Prakash • Kalpana Ambastha • Kamal Dalakoti • Umang Agnihotri

Tampara, Odisha / © Dayadra Mandal

Programme highlight →

Wetlands as Nature-based Solutions for Disaster Risk Reduction

Mangroves of Andaman and Nicobar Islands / © Curioso.Photography, Shutterstock

PROJECTS

1. Assessing Climate Change and Disaster Risk Co-benefits of Wetlands Management

   Funded by GIZ-India

2. Wetlands for Resilience

   Funded by SIDA-WI

A Toolkit to Assess Climate Change Adaptation Co-benefits of Wetlands Management

In October 2023, Wetlands International South Asia, in partnership with Perspectives Climate Group and GIZ-India, initiated a project on '*Developing a Methodology for Assessment of Climate Change Adaptation and Disaster Risk Reduction Benefit of Wetland Management*'. The purpose of the project was to develop a tool for identifying and quantifying adaptation and DRR co-benefits of wetlands management, and field-test the tool in four Ramsar Sites.

IPCC defines adaptation in human systems as the process of adjustment to actual or expected climate and its effects, in order to moderate harm or exploit beneficial opportunities. For an intervention to deliver an adaptation benefit, it must: a) take place in a climate change vulnerability context; b) address the vulnerability context; c) have a clear, direct, and coherent link between the adaptation measure and the vulnerability context (which can be demonstrated in terms of a result chain). The adaptation benefits may be in the form of reduced exposure, reduced sensitivity, and maintained and enhanced adaptive capacity. The disaster risk reduction benefits conceptually overlap with the adaptation benefits.

The development of an adaptation co-benefit tool for wetland management follows a two-tiered approach. Tier 1 consists of a qualitative assessment that enables users to identify the different adaptation co-benefits associated with the selected wetland management interventions. Tier 2 builds on Tier 1 and proposes guidelines for quantifying adaptation co-benefits. Named Co-WET, the tool is aimed at supporting stakeholders in mapping and quantifying adaptation and DRR co-benefits at wetland sites. The tool covers eight climate hazards, namely inland flood, soil erosion, drought, storm surge and cyclone, heat wave, coastal inundation, coastal erosion, and glacial lake outburst flood. For Tier 2 assessment, benefits in three dimensions: a) disability-adjusted life years; b) avoided losses in agriculture, livestock and aquaculture; and c) avoided loss in infrastructure and economy. The tool prototypes were developed with close feedback from wetland managers, for which two workshops were organised on August 30 and November 11 of 2024. The finalised Co-WET tool has been officially launched at COP 15 in Zimbabwe.

Snapshots of Co-WET, an adaptation co-benefit assessment tool for wetland management. The tool has been launched at the Ramsar COP15

Application of Tier 2 of the Co-WET tool for a 100-year return flood event in Vembanand Kol wetlands (Kerala) indicated a benefit of 13 DALYs, ₹ 12 million of avoided losses in agriculture production and ₹ 1.1 million of avoided losses of private assets. In the case of Palikarnai marsh (Tamil Nadu), the quantified DRR co-benefit for a 100-year return period flood was estimated to be ₹ 0.15 million of avoided losses to agriculture production and ₹ 0.02 million of avoided losses of private assets. In the coming year, Wetlands International South Asia will work towards increased consideration of adaptation and DRR benefits in wetlands management through the use of the Co-WET tool and generating diverse case studies.

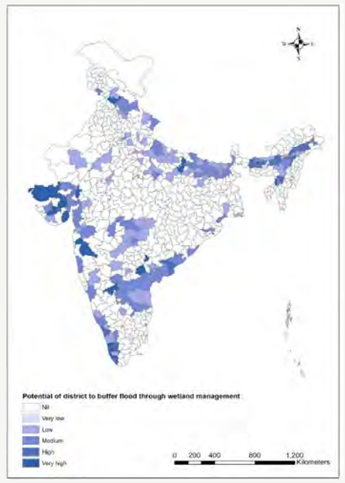
Potential of Wetlands in Mitigating Climate Hazards: Mapping of Hotspots

A district-level mapping of the potential of wetlands to buffer floods, droughts and cyclones was undertaken to identify convergence hotspots. The mapping done using a five step process:

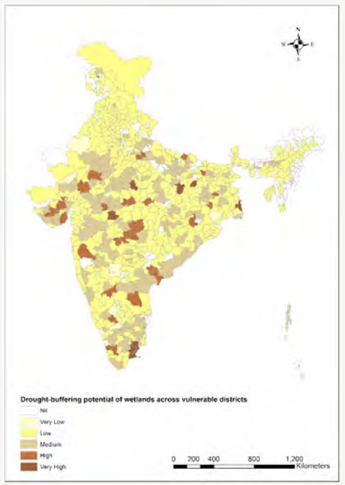
- ✓ **Step 1 →** Assessing the vulnerability of districts to flood, drought and cyclone;
- ✓ **Step 2 →** Defining the hazard-buffering potential of different wetland types;
- ✓ **Step 3 →** Estimating wetland density capable of reducing the impact of hazards for each district;
- ✓ **Step 4 →** Scoring wetland potential for hazard buffering; and
- ✓ **Step 5 →** Mapping hotspots where wetland management can mitigate hazard. The hotspot maps for flood, drought and cyclone are presented below.

The analysis indicated that 41 districts have high potential for using wetland-based solutions for buffering floods. Similarly, there are 36 districts wherein an extensive wetland network exists to buffer drought risks. In 22 coastal districts, the wetland density is significant in providing a buffer against cyclone risks.

The analysis is designed to assist collaboration between government agencies entrusted with disaster risk reduction and wetlands conservation.



a)



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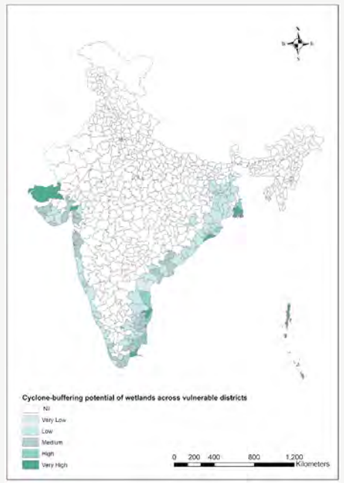


c)

In several districts, the wetland density is significant to contribute to buffering a) floods, b) droughts, and c) cyclones. These districts can be hotspots for piloting wetland-mediated solutions for disaster risk reduction.

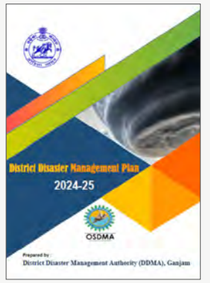
These maps will also be useful for various organisations interested in pursuing wetland-mediated solutions for disaster risk reduction.

Integrating Wetlands in the District Disaster Management Plan for Ganjam, Odisha

Ganjam, a coastal district of Odisha, ranks among India's most vulnerable regions to water-related hazards. Responding to the District Collector's request to strengthen disaster resilience, Wetlands International South Asia integrated wetland-based approaches for disaster risk reduction into the District Disaster Management Plan (DDMP) for Ganjam.

The Wetlands International South Asia team engaged with district officials to explore opportunities for embedding wetlands as nature-based solutions within the DDMP. Following a detailed review of the existing plan, targeted wetland-related actions were identified for each stage of the disaster management cycle and presented to the District Disaster Management Authority (DDMA).

The revised DDMP for 2024–2025 now includes wetlands as a nature-based solution for disaster risk reduction. A dedicated section — *Chapter 6.10: Integrating Wetlands as a Nature-based Solution in Disaster Management* — details priority interventions, designates responsible agencies, and highlights options for fund convergence through relevant schemes and programmes. The disaster management plan can be accessed at *https://www.osdma.org/districtplan/ganjam/#gsc.tab=0*.



CHAPTER-6	CLIMATE CHANGE ADAPTATION & MITIGATION	90
6.1	Important Greenhouse Gases	
6.2	Important Greenhouse Gases: Carbon Dioxide (CO2)	
6.3	Important Greenhouse Gases: Methane (CH4)	
6.4	Important Greenhouse Gases: Nitrous Oxide (N2O)	
6.5	Important Greenhouse Gases: Fluorinated Gases	
6.6	Important Green House Gases: Chlorofluorocarbons (CFCs)	
6.7	Green House Gas Sequestration	
6.8	Sectors with High Mitigation Potential	
6.9	Sector Specific Climate Change Mitigation Projects	
6.10	Integrating Wetland as Nature based solution in Disaster Management	

The Ganjam District Disaster Management Plan has dedicated a specific section on integrating wetlands as nature-based solutions— Chapter 6.10: Integrating Wetlands as a Nature-based Solution in Disaster Management

Tampara, Odisha / © Harsh Ganapathi

India NbS Forum

The India Forum for Nature-based Solutions is India's first urban NbS consortium that aims to raise awareness and scale up adoption of nature-based solutions across cities in India. Wetlands International South Asia is one of the core partners of the Forum.

As a core partner, Wetlands International South Asia contributes to the Knowledge, Capacity and Policy Task Force, along with other partners. In January 2025, the organisation delivered a training session on wetlands inventory and management planning in the context of NbS and DRR to stakeholders preparing Urban River Management Plans for 10 cities of Uttar Pradesh and Uttarakhand under the NMCG program. The team also supported the Forum members on shaping the 'DeCode NbS' tool to guide stakeholders toward adopting Nature-based Solutions to address urbanisation and climate change challenges in India. The team is preparing guidelines for integrating wetlands and blue-green infrastructure in City Disaster Management Planning, which is scheduled for publication in 2025.

Training on wetlands as NbS for urban river management delivered to urban practitioners under NMCG-NIUA River Cities Alliance

Wetlands for Resilience—Bangladesh

In 2023–24, the Wetlands4Resilience initiative was launched by Wetlands International and the Swedish International Development Cooperation Agency (SIDA) to develop a landscape-scale vision and partnership for ecosystem-led resilience building. During the year, the initiative deepened its engagement in its lighthouse landscape — the Bangladesh Sundarbans. During the year, W4R made notable progress in laying the foundations for a multi-stakeholder landscape partnership for the Sundarbans. Wetlands International South Asia advanced its presence in Bangladesh through a combination of regional knowledge exchange and on-ground consultations, catalysing a collaborative approach to strengthen wetland-based resilience. To anchor efforts locally, Wetlands International South Asia partnered with the Development Organisation of the Rural Poor — a leading NGO with extensive field presence in the Bangladesh Sundarbans. Alongside this partnership, the organisation undertook stakeholder mapping and engagement, reaching out to government agencies, civil society groups, academia, and community-based organisations. These dialogues ensured that diverse voices shaped the programme's design.

Spanning India and Bangladesh, the Sunderbans are the world's largest single contiguous mangrove. Wetlands International South Asia is working with local partners to develop a landscape-scale vision for ecosystem-led resilience building.

Global Mangrove Alliance—India Chapter

The Global Mangrove Alliance (GMA) is a collaborative effort to conserve and restore mangrove ecosystems worldwide. Launched in 2018, it brings together NGOs, governments, scientists, local communities, and funders to reverse the loss of these vital habitats. The GMA aims to scale up mangrove protection and restoration, recognizing their importance for climate change mitigation and adaptation, biodiversity, and coastal community well-being.

In 2024–25, preparatory steps were taken towards the formation of the Global Mangrove Alliance—India Chapter (GMA India). Wetlands International South Asia and SaciWATERs jointly advanced discussions on a shared vision for strengthening mangrove conservation in India. Preparatory meetings were held in March 2025, resulting in a Declaration of Interest to be submitted to the GMA. These engagements focused on collaborative governance, alignment with global goals, and pathways for national action towards mangrove and coastal wetlands conservation as Nature-based Solutions (NbS) for climate resilience and disaster risk reduction. A first meeting of members was also planned for laying the foundation of a coordinated national platform on mangrove conservation and restoration.

TEAM • Dayadra Mandal • Ravi Prakash • Anil Fartiyal • Nikita Mishra • Dhruv Verma • Sridhar A.

Sasthamkotta, Kerala / © Harsh Ganapathi

Programme highlight →

Conserving Wetlands Biodiversity

Sultanpur National Park, Haryana / © Kamal Dalakoti

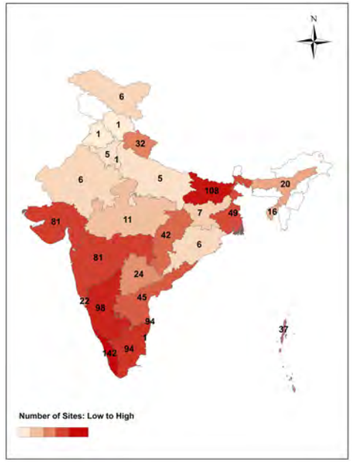
PROJECTS

1. Asian Waterbird Census
   Internal funding
2. State of Indian Wetlands
   Internal funding
3. Wetlands and Winged Voyagers: Identification and Conservation of Important Wetlands along the Central Asian Flyway
   Funded by Tata Motors Limited
4. Conservation and Sustainable Management of Wetlands, Forest and Grasslands to Secure the Population of Migratory Species along the Central Asian Flyway in India
   Funded by UNDP
5. Wetlands Management for Biodiversity and Climate Protection
   Funded by IKI-GIZ

Asian Waterbird Census 2025

The Asian Waterbird Census (AWC) is a long-term citizen science initiative to monitor, on an annual basis, the population of waterbirds during their non-breeding period. This volunteer-based programme is coordinated in India by Wetlands International South Asia and Bombay Natural History Society (BNHS), as part of the International Waterbird Census (IWC). The AWC is the longest-running citizen science biodiversity monitoring programme in India. Since 2022, the National Biodiversity Authority has recognised the initiative and encourages all Biodiversity Boards and Councils to conduct the census at wetlands in their jurisdiction.

The 2025 mid-winter census in India was launched in December 2024 and undertaken during January 4–19, 2025. The census covered nearly 900 wetlands from 29 States and Union Territories. A compilation of reports received up to March 2025 indicated the presence of 195 species of waterbirds and wetland-dependent birds (out of 240 waterbird species recorded in India). Notable sites surveyed during the AWC 2025



The AWC 2025 covered over 900 wetlands across the country

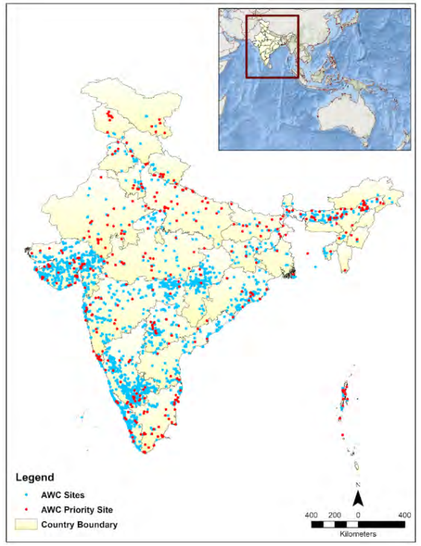
Arif Ahmad, along with AWC volunteers, conducted the Asian Waterbird Census at Phey, Ladakh

included the Aghanashini Estuary in Karnataka, which recorded 26,367 individuals; Thol Bird Sanctuary in Gujarat, with 20,060 individuals; and Vadala Dam in Gujarat, with 16,110 individuals. The highest species richness was observed at Thol Bird Sanctuary, Gujarat, with 81 species, followed by Sambhar Lake, Rajasthan, with 72 species, and Aghanashini Estuary, Karnataka, with 69 species. The Mokarsagar Wetland Complex recorded five threatened species listed on the IUCN Red List, followed by four threatened species each reported from Bhadreshwar, Bhavnagar, Dhinchada Lake, Khijadiya Bird Sanctuary, and Sachana Beach.

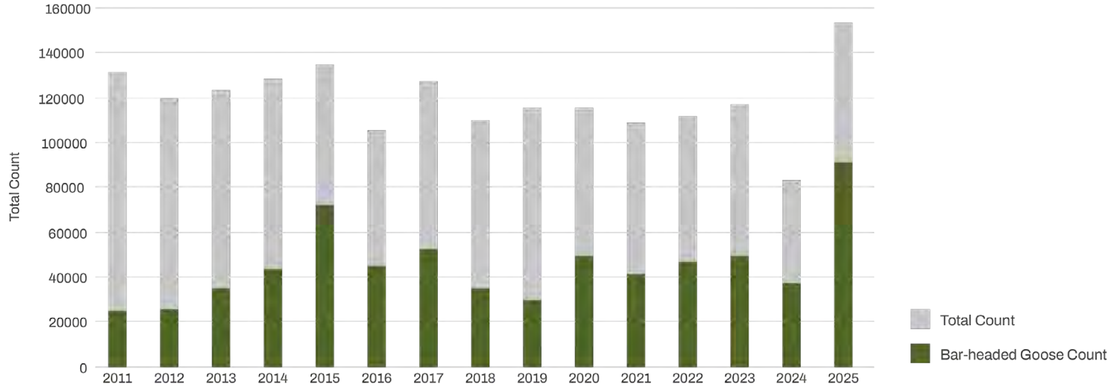
Notable records included several globally threatened species listed on the IUCN Red List, such as Baer's Pochard, Dalmatian Pelican, Siberian Sandplover, and Indian Skimmer.

A virtual meeting with 19 coordinators representing AWC India and States/UTs and IWC was held on December 22, 2024, to share programme highlights from 2024 and plan for the 2025 census rollout. A prioritisation framework for AWC sites was developed to ensure consistent year-on-year coverage and enable robust waterbird population trend analyses. The coordinators have collectively identified 184 priority sites wherein consistent coverage will be ensured.

The long-term Asian Waterbird Census dataset offers critical insights for monitoring



The AWC has identified 184 wetlands where consistent coverage of census will be ensured



Trends in total waterbird abundance and Bar-headed Goose counts at Pong Dam, a Ramsar Site in Himachal Pradesh, based on Asian Waterbird Census data (2011–2025)

wetland ecological health and serves as a valuable tool in guiding effective management. In 2025–26, the AWC Decadal Report (2016–2025) will be published, updating the previous decadal report of 2006–15. This report will present a comprehensive state-wise analysis of waterbird populations and their habitats, accompanied by decadal population trends and site-level assessments.

Wetlands and Winged Voyagers: a Partnership to Nurture Wetland Positive Landscapes

As part of its corporate sustainability and biodiversity strategy, Tata Motors Limited (TML) has partnered with Wetlands International South Asia for a two-year initiative, '*Wetlands and Winged Voyagers*'. The initiative aims at conserving wetlands around a 100-kilometre radius of its four production facilities, namely, Pimpri Chinchwad (Maharashtra), Lucknow (Uttar Pradesh), Sanand (Gujarat), and Jamshedpur (Jharkhand). The 100-kilometre radius includes about 11,000 wetlands larger than 0.5 ha. It is proposed to ground-truth 1,800 wetlands and prepare 1:4,000 scale maps, prepare a wetland ecological character baseline for 300 wetlands, and develop management plans for 60 prioritised wetlands. The ecological character baseline includes conducting the Asian Waterbird Census at all 300 sites. Project implementation is anchored in a participatory approach with capacity development and involvement of TML staff and, the supplier and distributor networks. The project was launched in October 2024.

Field assessments include collecting data on multiple parameters, including community consultations. From top left, Anil Fartiyal, Dakshata Gaikwad, and Ravi Prakash collecting data from wetlands around Tata Facilities in Pune, Maharashtra and Jamshedpur, Jharkhand

During the year, project implementation involved mapping of all wetlands above 0.5 ha in the four landscapes. Thematic layers on hydrology, geology and geomorphology were also prepared. 1,843 wetlands, which overlapped with sites of significance to waterbirds (Important Bird and Biodiversity Areas and Key Biodiversity Areas) were selected for ground-truthing and boundary delineation. By March 2024, this exercise was completed for 900 wetlands. Mid-winter Waterbird Census was also conducted in about 100 sites. Of the ground-truthed wetlands, 300 wetlands were prioritised for developing ecological character baselines. These wetlands were selected based on a prioritisation criteria which included proximity to Protected Areas, Ramsar Sites, and Notified Wetlands, and overlap with wetlands having high waterbird congregation as per eBird and AWC data. Of the 300 wetlands, ecological character baselines were prepared for 150 wetlands, using a wetland assessment tool aligned with the hydrogeomorphic approach.

In the coming year, wetland inventory and management planning will be completed for all four landscapes. 'No-regrets' actions will be launched for at least 15 wetlands, implementation of which will be supported by funds leveraged from convergence sources.

Multi-year GEF Project for Conservation of Migratory Species in the Central Asian Flyway

The Central Asian Flyway (CAF) is one of the nine global waterbird flyways, comprising migratory routes from the northernmost breeding grounds in Siberia to southernmost non-breeding grounds in the West and South Asia, the Maldives and British Indian Ocean Territory. The flyway spans 30 countries of North, Central and South Asia and Trans Caucasus. India is located at the heart of CAF. Nearly 71% of the migratory waterbirds of the flyway use India as a stopover site.

Wetlands International South Asia has been advocating for the establishment of a coordination framework and an action plan for the CAF, and organised the first meeting of the range countries in collaboration with the CMS Secretariat in June 2005. After decades of slow uptake, an agreement to establish a CAF initiative was taken at the 14th Conference of the Parties Meeting of the CMS held at Gandhinagar. The MoEFCC also agreed to establish the initiative's secretariat at the Wildlife Institute of India. Wetlands International South Asia was also a part of the drafting team in India's CAF National Action Plan, adopted for implementation in 2018.

The Global Environment Facility Trust Fund, as part of its 8th cycle grants, has approved an allocation of US$ 11.67 million for implementing a project titled '*Conservation and Sustainable Management of Wetlands, Forest and Grasslands to Secure the Population of Migratory Species Along CAF*' with the Wildlife Division of the MoEFCC as the national implementing agency and UNDP as the GEF Agency. The preparatory phase of the project was from June 2024 to December 2025, and the implementation is for six years (from January 2026 to December 2031). Wetlands International South Asia led the design of the multi-year project.

The overall project design is structured around the following five components:

- **Component 1**: Enabling framework for the establishment of ecologically representative, well-connected, and governed wetlands and associated habitats in the CAF.
- **Component 2**: Conservation and sustainable management of wetland systems to secure the habitats of migratory birds and attendant species through an integrated wetland scape approach.
- **Component 3**: Enhanced community stewardship of aquatic habitats incentivised by sustainable resource use.
- **Component 4**: Awareness raising, knowledge, communication, management, and gender mainstreaming to promote replication and scale up the integrated conservation approach for CAF
- **Component 5**: Effective project monitoring and evaluation ensured and support adaptive management.

The project adopts an integrated wetland management approach, anchoring interventions in five ecologically significant regions: the Upper Brahmaputra Basin, the riverine tracts of Uttar Pradesh and Bihar, the Gujarat wetland complexes, and the coastal tracts of Tamil Nadu.

The project aims to improve the management of 326,272 ha and 74,337 ha of terrestrial and marine protected areas, as well as 450,000 ha of terrestrial and coastal areas (outside PAs). Additionally, it seeks to create 100,000 ha of terrestrial OECMs to conserve biodiversity. The project also aims to enable the mitigation of 1,824,921 mt CO_2e over 20-year period and benefit around 40,000 direct beneficiaries.

Black-necked Crane in Tso Kar / © Apoorva Thapa

Arghya Chakrabarty gathering stakeholder perspectives for the design of the CAF project with the villages around Kaziranga National Park and Tiger Reserve, Assam

Wetlands International South Asia's team conducted field missions and stakeholder dialogues at all the project landscapes from December 2024 to March 2025. The final stakeholder consultation meeting was held on April 28, 2025, in New Delhi, wherein the project document was approved by stakeholders for submission to the MoEFCC and the GEF.

The project document will be reviewed over the coming six months by the GEF Secretariat and is expected to be launched in January 2026. Wetlands International South Asia will collaborate with project partners to develop knowledge systems, integrated wetland management plans, capacity development of stakeholders, establish monitoring systems, and develop a national wetlands roadmap for the country.

Recognising Wetlands as 'Other Effective Conservation Measures' Sites

There is a long history of managing defined geographic areas of landscapes and seascapes for biodiversity conservation, with protected areas being the predominant mechanisms. However, it is increasingly recognised that many areas outside the global network of protected areas also contribute to the goal of biodiversity conservation, whether or not they are being explicitly managed for it. Recognising the significance of such areas, the CBD introduced the concept of 'Other Effective Area-Based Conservation Measures' or OECMs as a part of the Strategic Plan for Biodiversity Conservation 2011–2020, and subsequently adopted the definition, guiding principles and identification criteria in 2018. In 2022, the National Biodiversity Authority introduced the criteria and guidelines for the identification of OECMs in India.

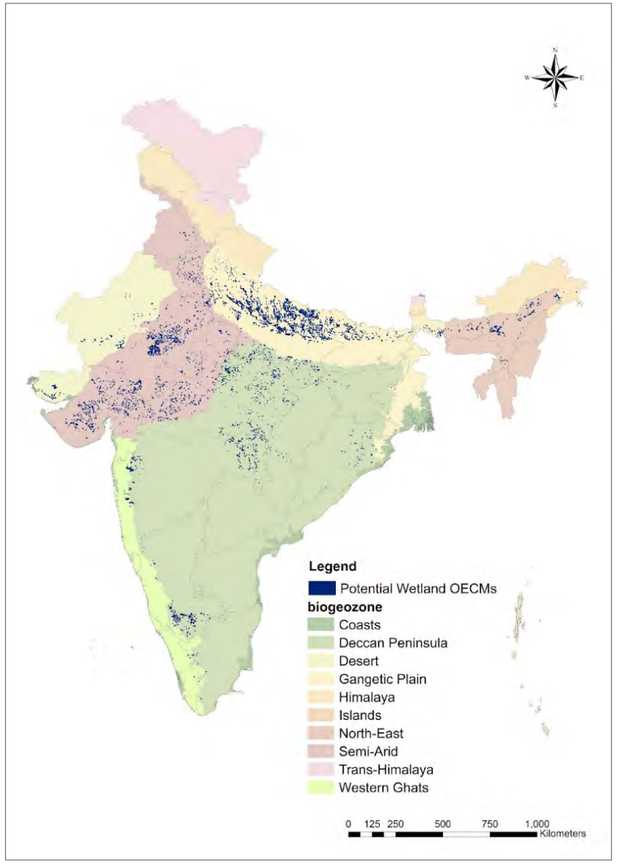
In 2024, India's National Biodiversity Strategy and Action Plan was updated, and 23 national targets were set in alignment with the global goals and targets set under the Kunming-Montreal Global Biodiversity Framework. The national targets are categorised under three main themes: (a) reducing threats to biodiversity, (b) meeting people's needs through sustainable use and benefit-sharing, and (c) providing tools and solutions for implementation and mainstreaming. OECMs receive an explicit mention under National

Biodiversity Target 2 (Ensure that by 2030, at least the prioritised 30 per cent areas of degraded terrestrial, inland water, and marine and coastal ecosystems are under effective restoration, in order to enhance biodiversity and ecosystem function and services, ecological integrity and connectivity) and Target 3 (Ensure and enable that by 2030, at least 30 per cent of terrestrial, inland waters and coastal and marine areas, specifically areas of importance of biodiversity, ecosystems functions and services are effectively conserved through ecologically representative,well-connective protected areas and OECMs).

With the revision of the National Biodiversity Targets, a process for revising the existing OECM guidelines was initiated, and the Director, Wetlands International South Asia, was included as a member of the committee constituted by the NBA for the purpose. The revised guidelines include wetlands as one of the three ecosystem types wherein OECMs can be designated. To support the rollout of the national guidelines, an exploratory analysis of the extent of wetlands that meet the OECM designation criteria was undertaken.

Using spatial data from the National Wetland Inventory and Assessment, a systematic screening was carried out to identify wetlands located beyond the boundaries of existing PAs, Ramsar Sites and Notified Wetlands. Wetlands were prioritised based on beta-richness, a measure of ecological variability and species turnover, and further analysed in relation to their proximity to Key Biodiversity Areas, Ramsar Sites, and other ecologically regulated zones.

Based on the analysis, over 6,000 wetlands that could be potentially designated as OECMs were identified. Of these, 751 wetlands are located in the 1 km buffer around protected areas and could be critical in providing habitat connectivity for numerous high conservation value wetland-dependent species. The outcomes of the analysis will be used to support Wetland Authorities, biodiversity boards, and other stakeholders in designating and managing OECMs so that the ambitions set under National Biodiversity Targets are met.



There are over 6,000 wetlands that can be potentially designated as OECMs in India

State of Indian Wetlands: Analysis of Direct Drivers

In 2023–24, the Governing Body of Wetlands International South Asia approved the State of Indian Wetlands project, which aims to develop a coherent and systematic picture of the wetland's status and trends, drivers of change, impacts of various management interventions, and future scenarios. In the first year, a Wetland Trend Index for 1985–2022 was developed based on the time-series data on 10,984 wetlands. The index indicates a loss of around 31% of natural wetlands and a gain of around 110% of human-made wetlands in the period under analysis.

During 2024–25, an analysis of direct drivers of adverse change in wetlands was undertaken. In line with definitions used in Global Wetland Outlook and IPBES Assessments, drivers of change are considered to be the factors that, directly or indirectly, cause changes in nature, anthropogenic assets, nature's contributions to people and a good quality of life. The direct drivers of change lead to immediate modifications in wetland features and can be natural or anthropogenic in nature. Four categories of direct drivers, namely, physical regime change, introduction (of alien material), extraction beyond regenerative limit, and structural modification, have been considered. The data on drivers was collated for 400 wetlands, of which 210 were natural and 190 were human-made. Data for 1985 and 2022 were collated using spatial datasets, published literature, scientific studies, and wetland management plans.

An overview of the drivers for the two wetland categories and nine biogeographic zones is presented below. The analysis of direct drivers will be coupled with indirect drivers to develop a future scenario for Indian wetlands.

Type of Wetland	Biogeographic Zone of India	Physical Regime Change				Extraction		Introduction			Structural Modification	
		Water Quality	Water Frequency	Sediment Inflow	Salinity	Water	Aquaculture	Nutrient Load	Wastewater Generation	Solid Waste Generation	Drainage Alteration	Land Use Conversion
Natural	Coastal	Negative	Negative	Negative	Negative	Negative	Negative	Negative	Positive	Positive	Negative	Negative
	Deccan Peninsula	Negative	Negative	Stable	Negative	Negative	Stable	Negative	Stable	Stable	Negative	Negative
	Desert	Negative	Stable	Positive	Stable	Stable	Driver absent / not applicable in the respective biogeographic zone	Stable	Positive	Stable	Negative	Negative
	Gangetic Plain	Stable	Stable	Stable	Stable	Negative	Driver absent / not applicable in the respective biogeographic zone	Stable	Stable	Stable	Negative	Negative
	Himalayas	Stable	Stable	Stable	Stable	Negative	Driver absent / not applicable in the respective biogeographic zone	Stable	Stable	Stable	Negative	Negative
	Islands	Stable	Stable	Stable	Stable	Negative	Stable	Stable	Stable	Negative	Negative	Negative
	North East	Stable	Negative	Stable	Negative	Negative	Stable	Stable	Stable	Stable	Negative	Negative
	Semi-Arid	Negative	Negative	Stable	Negative	Negative	Driver absent / not applicable in the respective biogeographic zone	Negative	Stable	Stable	Negative	Negative
	Trans Himalayas	Negative	Stable	Stable	Stable	Stable	Driver absent / not applicable in the respective biogeographic zone	Stable	Stable	Stable	Stable	Negative
	Western Ghats	Negative	Negative	Negative	Stable	Negative	Negative	Negative	Stable	Stable	Negative	Negative
Human-made	Coastal	Negative	Negative	Stable	Stable	Negative	Stable	Stable	Positive	Negative	Negative	Stable
	Deccan Plateau	Negative	Negative	Stable	Negative	Negative	Stable	Negative	Positive	Stable	Negative	Negative
	Desert	Stable	Stable	Stable	Stable	Stable	Driver absent / not applicable in the respective biogeographic zone	Stable	Positive	Stable	Negative	Negative
	Gangetic Plain	Negative	Negative	Positive	Stable	Negative	Stable	Stable	Positive	Stable	Stable	Negative
	Himalayas	Negative	Stable	Stable	Stable	Negative	Stable	Stable	Stable	Positive	Stable	Negative
	North East	Negative	Negative	Positive	Stable	Negative	Driver absent / not applicable in the respective biogeographic zone	Stable	Positive	Stable	Negative	Stable
	Semi-Arid	Negative	Negative	Stable	Negative	Negative	Driver absent / not applicable in the respective biogeographic zone	Stable	Positive	Stable	Negative	Negative
	Trans Himalayas	Stable	Stable	Stable	Stable	Stable	Driver absent / not applicable in the respective biogeographic zone	Stable	Stable	Stable	Stable	Stable
	Western Ghats	Negative	Negative	Stable	Stable	Negative	Stable	Stable	Stable	Stable	Negative	Negative

An overview of the direct drivers of change for natural and human made wetland across nine biogeographic zones

Negative
Stable
Positive
Driver absent / not applicable in the respective biogeographic zone

TEAM • Dhruv Verma • Arghya Chakrabarty • Apoorva Thapa • Anil Fartiyal • Arif Ahmad • Ravi Prakash • Dakshata Gaikwad • Kalpana Ambastha • Kamal Dalakoti • Dr Asghar Nawab • Suchita Awasthi • Umang Agnihotri • Nikita Mishra • Dayadra Mandal • Preethi Vasudevan

Communications and Outreach

World Wetlands Day 2025

A public event was organised on World Wetlands Day, February 2, 2025, at the India International Centre, New Delhi. The theme '*Protecting Wetlands for Our Common Future*' underscored the urgency of global efforts and bold transformative actions to protect wetlands for the welfare of all people and ensure the continuity of benefits for future generations.

Mr Jairam Ramesh, Hon'ble Member of Parliament, Rajya Sabha and Formerly Union Minister, Ministry of Environment, Forests and Climate Change, Government of India, was the Chief Guest of the World Wetlands Day event. The panel discussion on '*Wetlands and Sustainable Development*' brought together eminent environmentalists, including Dr Yash Veer Bhatnagar (Country Representative, IUCN-India), Dr Vishaish Uppal (Director, Governance, Law and Policy, WWF-India), and Dr VB Mathur (Former Chairperson of National Biodiversity Authority). The event was attended by about 70 dignitaries from central government agencies, international organisations, academia, civil society, media and experts.

Two publications were released on the occasion. A document on peatland estimation in India, which presents an estimate of the extent and amount of carbon stored in these wetlands, was released. A training manual on managing water quality in wetlands was also released. Three posters—one from the Ramsar Convention, the second on protecting wetlands for a common future, and the third on peatland values, were released.

Panel Discussion with (left to right) Prof VB Mathur, Mr Jairam Ramesh, Mrs Vishaish Uppal, and Dr Yashveer Bhatnagar, during the World Wetlands Day 2025 event

Students interacting with the panelists

TEAM • Sarthak Danda • Suchita Awasthi • Dayadra Mandal • Aditi Patial • Nikita Mishra • Arif Ahmad

Engaging with Students and Youth on Wetlands Conservation

Wetlands International South Asia is nurturing a new generation of wetland stewards through interactive education, hands-on experiences, and global collaboration. The initiatives are a part of a broader effort to promote a 'whole-of-society' approach to wetlands conservation, focusing on fostering a deeper connection between youth and wetlands. The school learning programme that was initiated in 2021–22 blends learning with action, using positive reinforcement to build conservation ethics among students.

During 2024–25, wetland learning centres were established in Kerala and Odisha. These centres serve as hubs for awareness, training, and community engagement. Students participated in field visits, biodiversity assessments, water quality monitoring, and cultural explorations, translating curiosity into confident and youth-led conservation action. Workshops, field exposure, and creative learning activities, such as designing 3D models of wetland catchments, paintings, comic strips, and bookmarks, were organised for nearly 1,000 students across Odisha, Kerala, Ladakh, and Haryana, emphasising the importance of youth engagement in conserving these crucial ecosystems. These efforts align with the Asia Wetland School initiative that aims to implement *Ramsar Resolution XIV.11*, adopted at COP 14 in 2022, which encourages integrating wetland education into formal education across Asia.

Wetlands International South Asia was part of the Indian delegation at the inaugural meeting of the Asia Wetland School Network (AWSN) Committee in Bangkok from July 16 to 18, 2024, to review and adopt the network's Terms of Reference. Delegates from India, China, Lao PDR, the Philippines, Japan, Sri Lanka, and Thailand shared their experiences in integrating wetland education and highlighted the ongoing efforts to engage youth and citizens in wetlands conservation in India.

Exposure visits to Tsomoriri, Ladakh (top) and Chilika, Odisha (bottom) to provide hands-on, immersive learning experience for the students

The AWSN met at the Klong Pittaya Longkorn School, Thailand. The School is known for its involvement in mangrove conservation and restoration projects and is a part of the AWSN

Governance

Tsomoriri, Ladakh | © Suchita Awasthi

Wetlands International South Asia is governed under a three-tier structure. A General Body sets the strategic directions and policies of the organisation, whereas the responsibility of management is vested in its Governing Body. The Office Bearers, comprising the President, Vice President, Treasurer, and Secretary, maintain oversight of the implementation of various decisions and programme operations. The Director, appointed by the Governing Body, serves as the principal institutional representative of Wetlands International South Asia and is responsible for implementing the strategy and activities of the organisation.

Annual General Body Meeting

The 17th Annual Meeting of the General Body was held on September 26, 2024, at the NSIC Conference Room, New Delhi and attended by 19 members. The annual report and audited financial statements for the period April 2024–March 2025 were adopted.

Meetings of the Governing Body

The Governing Body met thrice to consider management issues arising from the decisions of the General Body as well as from the implementation of technical programmes.

The 27th meeting of the Governing Body was held on April 26, 2024. The Annual plan for 2024 was discussed and approved.

The 28th meeting of the Governing Body (Extraordinary) was held on May 15, 2024, wherein the Human Resource Policy amendments and proposal for revising compensation were approved.

The 29th meeting of the Governing Body was held on September 04, 2024, at Sultanpur National Park, Haryana, wherein the Governing Body approved the annual report and audited financial statements for presentation at the Annual General Body Meeting.

Meetings of Office Bearers

The Office Bearers met three times between April 2024 and March 2025 to assess the implementation of decisions made in various Society meetings, review technical programs, and prepare agendas for the Governing Body and General Body meetings.

The 17th Annual General Body Meeting was held at the NSIC Conference Room

The Governing Body held its 29th meeting at Sultanpur, Haryana

Governing Body members at the Interpretation Centre of Sultanpur, a Ramsar Site of Haryana

New General Body Members

The Wetlands International South Asia Society has five membership categories. While the founder members category only includes the original signatories of the Society's Memorandum of Association, the nominated members are only by invitation. During the year, the total membership to the Society increased from 46 to 59 members.

Establishing Desirable Skills and Qualifications for Governing Body

In the amendment to the Rules and Regulations effected in September 2020, it was decided that the Governing Body composition shall reflect diversity in skill sets, disciplinary expertise, regional experience, gender, and age. A committee was constituted by the President in April 10, 2024, to recommend desirable skills and qualifications of the Governing Body.

The final report of the committee was received in August 2024 and considered in the 29th meeting of the Governing Body.

When specifying the Skills and Qualifications, the Committee recommended that the President should be a person with considerable experience relevant to wetlands conservation, while also possessing significant policy and programming experience to support the vision and mission of the Society. Governing Body members should bring experiences related to: science, policy and practice dimensions of wetlands conservation in India and South Asia; sectors relevant to wetlands conservation, such as water management, urban planning, wildlife conservation, rural development, water, sanitation and health and others related to nature conservation; resource development and fundraising; communications and networking; and financial management (for the position of Treasurer). The committee also recommended that the composition of the Governing Body should reflect the diversity of regional experience, gender, age, and sectoral expertise.

Membership Category	Total members as on 31 March 2024	Total members as on 31 March 2025
Founder	12	12
Nominated	14	13
General	18	31
Institutional	1	1
Student	1	2

Kabartal, Bihar / © Harsh Ganapathi

Accounts and Audit Report

Bhitarkanika, Odisha / © Harsh Ganapathi

Report by

S. Sahoo & Co.
Chartered Accountants

FR NO.: 322952E

Report on the Financial Statements

Opinion

1. We have audited the accompanying financial statements of Wetlands International South Asia Society (PAN: AAATW1125E), which comprise the Balance Sheet as at 31 March 2025, the Income and Expenditure Account, Receipts & Payment Account for the year then ended, and significant accounting policies and notes to the financial statements.

2. In our opinion and to the best of our information and according to the explanations given to us, the aforesaid financial statements give the information required by the Act in the manner so required and comply, in all material respects, with the conditions laid down in the Scheme for the management and administration of the society and the rules made thereunder, to the extent relevant and applicable, and give a true and fair view in conformity with the accounting principles generally accepted in India, of the state of affairs of the Society as at 31 March 2025, and its deficit for the year ended on that date

Basis of Opinion

3. We conducted our audit in accordance with the Standards on Auditing (SAs). Our responsibilities under those Standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are independent of the Society in accordance with the Code of Ethics issued by the Institute of Chartered Accountants of India ('ICAI') and we have fulfilled our other ethical responsibilities in accordance with these requirements and the Code of Ethics. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Responsibilities of the Management for the Financial Statements

4. The management is responsible for the preparation of these financial statements that give a true and fair view of the financial position and financial performance of the society in accordance with the accounting principles generally accepted in India. This responsibility also includes maintenance of adequate accounting records in accordance with the provisions of the Act for safeguarding of the assets of the society and for preventing and detecting frauds and other irregularities; selection and application of appropriate accounting policies; making judgments and estimates that are reasonable and prudent; and design, implementation and maintenance of adequate internal financial controls, that were operating effectively for ensuring the accuracy and completeness of the accounting records, relevant to the preparation and presentation of the financial statements that give a true and fair view and are free from material misstatement, whether due to fraud or error.

5. In preparing the financial statements, management is responsible for assessing the society's ability to continue as a going concern, disclosing, as applicable, matters related to

going concern and using the going concern basis of accounting unless management either intends to liquidate the society or to cease operations, or has no realistic alternative but to do so.

Auditor's Responsibilities for the Audit of the Financial Statements

6. Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Standards on Auditing will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

7. As part of an audit in accordance with Standards on Auditing, we exercise professional judgment and maintain professional scepticism throughout the audit. We also:

   - Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence, that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
   - Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances.
   - Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the management.
   - Conclude on the appropriateness of society's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the society's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the society to cease to continue as a going concern.
   - Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

8. We communicate with the management regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

Other Matter

9. We have also issued our audit report as per Form No. 10B pursuant to the requirements of section 12A(1)(b) of the Income-tax Act, 1961, on the financial statements prepared by the management as required by the provisions of the Income-Tax Act, 1961 covering the same period as these accompanying financial statements.

Report on Other Legal and Regulatory Requirements

10. As required under other regulatory requirements, we report as under for the year ended 31 March 2025:

    a. Society has maintained its books of accounts in electronic mode. The books of accounts are updated and maintained by the finance department of the society on regular basis. The books of accounts are maintained in Delhi. In our opinion and accordingly information provided to us, proper books of accounts are maintained by the society and the same is maintained in accordance with the provisions of the Act and the rules made thereunder.

    b. Receipts and disbursements are properly and correctly shown in the accounts;

    c. The cash balance, vouchers, bank book etc. are in custody of Finance Department and the same are in agreement with Books of account on the date of our audit.

    d. All books, deeds, accounts, vouchers or other documents or records required by us were produced for audit;

    e. The Director and Finance Department of the society has furnished all information required for audit;

    f. In our opinion and according to the information provided to us, no property or funds of the society were applied for any object or purpose other than the object or purpose of the society;

    g. Society has invested its surplus as per the provisions of section 11(5) of the Income Tax Act.

    h. In our opinion and according to the information provided to us, no cases of irregular, illegal or improper expenditure or failure or omission to recover moneys or other property belonging to the public trust or of loss, or waste of moneys or other property thereof, and whether such expenditure, failure, omission, loss or waste was caused in consequence of breach of trust or misapplication or any other misconduct on the part of the governing board or any other person while in the management of the society were identified;

    i. As per the Scheme for the management and administration of the Society, the management of the society is entrusted to "Office Bearers". During the year under review, Society has 4 number of members as Office Bearers. The same is in accordance to the Scheme for the management and administration of the Society;

    j. In our opinion and according to the information provided to us, no governing board member has any interest in the investment of the Society;

    k. In our opinion and according to the information provided to us, no material irregularities were pointed out in the books of accounts of previous year.

Tarsar Lake, Jammu and Kashmir / © Apoorva Thapa

Balance Sheet

(Signed in original)

Dr Sidharth Kaul
President

Pijush Sinha
Treasurer

Dr Ritesh Kumar
Director

ML Khan
Admin & Finance Officer

(Amount in INR)

PARTICULARS			Note	31 March 2025	31 March 2024
I		**SOURCES OF FUNDS**			
	1	**NPO Funds**	3		
	(a)	Capital Fund		1,410,796	1,410,796
	(b)	General Fund		119,772,249	128,211,773
				121,183,045	**129,622,569**
	2	**Non-current liabilities**			
	(a)	Long-term borrowings		-	-
	(b)	Other long-term liabilities		-	-
	(c)	Long-term provisions		-	-
				-	-
	3	**Current liabilities**			
	(a)	Short-term borrowings		-	-
	(b)	Other current liabilities	4	5,740,754	4,224,312
	(c)	Short-term provisions		-	-
				5,740,754	**4,224,312**
		TOTAL		**126,923,798**	**133,846,881**
II		**APPLICATION OF FUNDS**			
	1	**Non-current assets**			
	(a)	Property, Plant and Equipment and Intangible assets	5		
		(i) Property, Plant and Equipment		7,918,994	7,973,879
		(ii) Intangible assets			
		(iii) Capital work in progress			
		(iv) Intangible asset under development			
	(b)	Non-current investments	6	58,380,306	66,697,812
	(c)	Long Term Loans and Advances		-	-
	(d)	Other non-current assets	7	1,543,966	1,470,483
				67,843,266	**76,142,174**
	2	**Current assets**			
	(a)	Current investments	8	-	-
	(b)	Inventories		-	-
	(c)	Project Receivables	9	39,364,449	44,858,641
	(d)	Cash and bank balances	10	13,370,202	5,208,921
	(e)	Short Term Loans and Advances	11	2,936,303	2,921,985
	(f)	Other current assets	12	3,409,578	4,715,160
				59,080,532	**57,704,707**
		TOTAL		**126,923,798**	**133,846,881**

Income and Expenditure

(Signed in original)

Dr Sidharth Kaul
President

Pijush Sinha
Treasurer

Dr Ritesh Kumar
Director

ML Khan
Admin & Finance Officer

(Amount in INR)

	PARTICULARS		Note	31 March 2025	31 March 2024
I	**Income**				
	(a)	Revenue from Projects	13	56,475,849	44,539,333
	(b)	Other Income	14	4,957,156	6,162,717
II		**TOTAL**		**61,433,004**	**50,702,050**
III	**Expenses**				
	(a)	Expenditure on Objects of Organization-Projects Expenses	15	26,005,959	15,790,040
	(b)	Donations/Contributions Paid- Amount Sub Grant		-	-
	(c)	Employee Benefits Expense	16	34,336,776	25,666,460
	(d)	Admin Expenditures	17	7,645,946	5,846,425
	(e)	Depreciation and amortization expense	18	1,883,847	1,623,358
		TOTAL		**69,872,529**	**48,926,283**
IV	Excess of Income over Expenditure before exceptional and extraordinary items (III- IV)			-8,439,524	1,775,767
V	Exceptional items			-	-
VI	Excess of Income over Expenditure for the year before extraordinary items (V-VI)			-8,439,524	1,775,767
VII	Extraordinary Items			-	-
VIII	Excess of Income over Expenditure for the year (VII-VIII)			-8,439,524	1,775,767
	Appropriations Transfer to Funds:				
		Balance transferred to General Fund		-8,439,524	1,775,767

Donors, Partners and Collaborators

Painted Storks at Keoladeo National Park, Rajasthan | © Harish Garapathi

Donors

Department of Environment, Forest and Climate Change, Bihar

United Nations Development Programme (UNDP)

Rainmatter Foundation

Wetlands International Global office, The Netherlands

GIZ (Deutsche Gesellschaft für Internationale Zusammenarbeit)

Perspective Climate Group (PCG)

MoEFCC-GEF-UNEP

Tata Motors Limited

Partners and Collaborators

Wetlands Division, MoEFCC

National Mission for Clean Ganga, Ministry of Water Resources, River Development and Ganga Rejuvenation

Agencies of United Nation

UNEP, UNDP

Wetland Authorities

Chilika, Loktak, East Kolkata Wetlands, Wular, Sultanpur

State Wetland Authorities

Arunachal Pradesh, Assam, Bihar, Chhattisgarh, Ladakh, Kerala, Madhya Pradesh, Punjab, Uttar Pradesh, Himachal Pradesh, Haryana, NCT of Delhi

NGOs and NGO Consortia

WWF India, SEEDS India, Asian Development Research Institute, Aranyak, Progressive Research Organization for Welfare (PROW), NetCoast, Action for Protection of Wild Animals (APOWA), India NbS Forum, India Water Partnership, Srushti Conservation Foundation

Knowledge and Research Organisations

National Centre for Sustainable Coastal Management (NCSCM), Salim Ali Centre for Ornithology and Natural History (SACON), GEER Foundation, CWRDM, WRI, Kumbalathu Sankupillai Memorial Devaswom Board (KSMDB) College, Harihar Dev Bidyapeeth, Odisha, DPS Faridabad

State Forest Departments

Bihar, Uttar Pradesh, Himachal Pradesh, Jammu and Kashmir, Ladakh, Punjab, Arunachal Pradesh, Haryana

International Organisations

Perspectives Climate Group, GIZ

Private Sector Platforms

India Business & Biodiversity Initiative by MoEFCC and Confederation of Indian Industry (CII-IBBI)

Capacity Building and Training Institutes

NIDM, NIRDPR

State of Indian Birds Coalition

Nature Conservation Foundation, National Centre for Biological Sciences (NCBS), Ashoka Trust For Research In Ecology And The Environment (ATREE), BNHS Conservation Education Centre, Indian Institute of Science (IISc), Foundation for Ecological Security (FES), National Biodiversity Authority (NBA), SACON, Wildlife Institute of India (WII), Wildlife Trust of India (WTI), WWF India, Zoological Survey of India (ZSI)

Asian Waterbird Census Network

Mandar Nature's Club, Neo Foundation, AERO, Wild Orissa, Deccan Birders, BNHS, Bird Count India, National Biodiversity Authority

Outlook
2025–2026

During 2025-26 we will work for the following results in six thematic areas, namely, strengthening integrated management of wetlands, rejuvenating wetlands for water security and disaster risk reduction, nurturing wetlands livelihoods, conserving wetland biodiversity, and safeguarding wetland carbon:

Strengthening Integrated Management

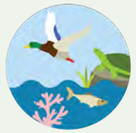
We aim to formulate integrated management plans of 16 Ramsar Sites (spanning 0.15 million ha) and initiate implementation of management plans for five Ramsar Sites (spanning 0.01 million ha). Additionally, our goal is to complete management effectiveness evaluations for 72% of these sites. To strengthen the capacities of stakeholders in integrated management plans, training workshops will be conducted for state and district-level functionaries in at least two states, and an online course on integrated management will be developed and launched. To support the implementation of the commitments of the Ramsar Convention, the organisation will draft a National Wetlands Conservation Strategy and establish the Ramsar Regional Initiative for South Asia. We will also publish a handbook on wetlands conservation actions at the Central, State, District, Local and Site levels and a compendium of best practices on wetlands management.

Rejuvenating Wetlands for Water Security and DRR

Within the Gangetic floodplains we will support the implementation of management actions in prioritised wetlands in Prayagraj, Muzaffarnagar, and Ballia district of Uttar Pradesh. In addition, we will work with the UPFD to prepare investment plans for all prioritised floodplain wetlands in the Gangetic districts of Uttar Pradesh. We will also support the District Disaster Management Authority of Ganjam, Odisha, in wetlands conservation and restoration within the framework of the District Disaster Management Plan. In the NCT of Delhi, we will inventorise, assess, and identify management interventions for wetlands in the 10-km buffer region around River Yamuna. To strengthen the knowledge base, we will develop a consolidated inventory of floodplain wetlands of Uttar Pradesh and Bihar and publish a conservation status report on small wetlands. We will also publish a guidebook on science and practices of conserving wetlands for water security.

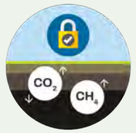
Nurturing Wetlands Livelihoods

During the year, the focus will be on initiating capacity development of six district authorities in Brahmaputra floodplains of Assam, in managing the floodplain wetlands and prepare a training manual for inventorisation, prioritisation, and management planning of these wetlands. Additionally capacity of the PRIs and wetland managers will be developed to embed wetland conservation actions within the Gram Panchayat Development Plans in three landscapes. We will also publish a training module on wetlands management and sustainable livelihood, and a compendium of wetlands-based enterprise models.



Conserving Wetland Biodiversity

We will work towards concluding the ecological assessments of 1,800 wetlands around Tata Motors Limited (TML) production facilities in Pune, Sanand, Lucknow, and Jamshedpur. Management interventions in 60 prioritised wetlands in the four TML landscapes. A network of 1,000 wetland mitras will be established during the year. We will also conclude an analysis of wetlands OECMs for achieving NBT Target 2 and 3. The draft report on the *State of Indian Wetlands* will be finalised after incorporating the review from the expert committee. A scoping report on Sundarbans (Bangladesh) on the current status of knowledge base, policies, programmes and partnerships will be developed. During the years, we will develop and publish the decadal synthesis report for 2016–2025. A critical site network map and analysis for five target CAF species will also be concluded.



Safeguarding Wetland Carbon

Work during the year will include initiating work on conserving peatlands of Jhelum Basin (Kashmir) and Chandertal (Himachal Pradesh). We will also publish the peatlands probability map for India. Carbon stocks in five peatland clusters will be estimated. A method for assessing the adaptation benefits of wetlands management and application results in four sites will also be developed.

Communications and Outreach

We will continue our engagements with the students through educational programmes designed for middle and high school students, as well as higher education institutions. Knowledge and outreach products will be developed to inspire young minds about wetlands conservation.

Continuing the wetlands monograph series, initiated in 2021 to serve as a resource for policy planners, academics and other stakeholders in undertaking actions for wetlands conservation, monographs for Vembanad Kol and Sathamkotta (Kerala) and Kabartal (Bihar) will be published.

We will also continue to provide handholding support to wetland authorities with which Wetlands International South Asia has a long-standing association. Through wetlands authorities and other forums, we will continue to engage with the state government by raising relevant issues, also enabling state governments to take actions for effective regulation and management.

Outlook 2025 – 2026

Think
Providing science-base and tools for conservation

Act
Work in specific sites delivering on-ground actions

Inspire
Inspire key actors and stakeholders to deliver results sustainably

Strengthening Integrated Management	**21 Ramsar Sites** 0.16 million ha	**56 Ramsar Sites** 1.3 million ha	
Rejuvenating Wetlands for Water Security and DRR	**573 wetlands** 0.02 million ha	**42 wetlands** 5,663 ha	
Nurturing Wetlands Livelihoods	**129 wetlands** 4,000 ha	**8 Ramsar Sites** 0.5 million ha	
Conserving Wetland Biodiversity	**2,643 wetlands** 0.12 million ha	**860 wetlands** ~10,000 ha	
Safeguarding Wetland Carbon	**9 wetlands** 0.17 ha	**4 wetlands** 0.01 ha	

OUR TEAM

List as of July 2025
Total members: 32

Vadavur, Tamil Nadu / © Suchita Awasthi

DIRECTOR

Dr Ritesh Kumar

PROGRAMME HEADS & SENIOR TECHNICAL OFFICERS

Dr Asghar Nawab
Programme Head / AQUATIC ECOLOGY

Suchita Awasthi
National Project Coordinator / IMWBES

Sridhar A
Senior Technical Officer / COASTS AND DELTAS

Dhruv Verma
Senior Technical Officer / WETLANDS CONSERVATION

TECHNICAL OFFICERS

Kalpana Ambastha
Technical Officer / SUSTAINABLE LIVELIHOODS

Arghya Chakrabarty
Technical Officer / BIODIVERSITY

Ravi Prakash
Technical Officer / WETLANDS SPECIALIST

Kamal Dalakoti
Technical Officer / GIS AND REMOTE SENSING

Apoorva Thapa
Technical Officer / HIMALAYAS

Umang Agnihotri
Technical Officer / WETLANDS SPECIALIST

Preethi Vasudevan
Technical Officer / WATER MANAGEMENT

Dayadra Mandal
Technical Officer / WATER MANAGEMENT

Shivani Negi
Technical Officer / GIS AND REMOTE SENSING

Sarthak Danda
Communications Officer

JUNIOR TECHNICAL OFFICERS & PROGRAMME ASSOCIATES

Nikita Mishra
Junior Technical Officer / KNOWLEDGE BASE DEVELOPMENT

Anil Fartiyal
Junior Technical Officer / BIODIVERSITY

Dakshata Gaikwad
Junior Technical Officer / BIODIVERSITY

Arif Ahmad
Programme Associate / HIMALAYAS

Bhuyashee Rajkumari
Programme Associate / IMWBES

Aditi Patial
Programme Associate / IMWBES

Aswinkrishna MV
Programme Associate / IMWBES

Ritish Ninan Alex
Programme Associate / IMWBES

Nivedhitha MP
Programme Associate / IMWBES

OPERATIONS AND FINANCE

Sauryajit Chaudhuri
Manager / OPERATIONS AND PARTNERSHIPS

ML Khan
Administration and Finance Officer

Avinash Kumar Saroj
Accountant

Yogendra Kumar
Account Assistant

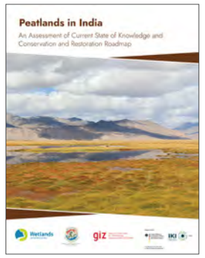
OFFICE SUPPORT STAFF

Rakesh Verma
Office Support Staff

Mahender Kumar
Office Assistant

Publications

Technical Reports



Peatlands in India: An Assessment of Current State of Knowledge and Conservation and Restoration Roadmap

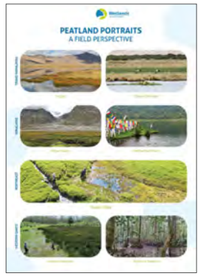
Water Quality for Wetlands Conservation and Wise Use (Integrated Wetland Management Training Manual—Module 3)

Wetland Wise Use—An Implementation Framework

Posters

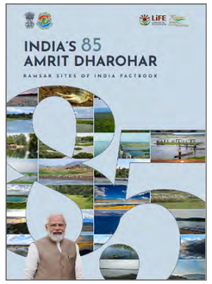
Peatland Values

World Wetlands Day 2025 Theme: Protecting Wetlands for Our Common Future



Peatland Portraits: A field perspective

External Publications



India's 85 Amrit Dharohar: Ramsar Sites of India Factbook 2025

Dos and Don'ts of Wetlands Conservation

World Wetlands Day Event 2025 in the News

"Dont just chase numbers but invest in conserving and managing Ramsar Sites well" Advices Jairam Ramesh at World Wetlands Day 2025 Event

Publication: Down to Earth

Live television coverage

Channel: Aaj Tak

Publication: Dainik Bhaskar

Publication: The Statesman

Publication: Amar Ujala

Publication: Rajasthan Patrika

Articles on Wetlands Published in the Media

Bending The Wetlands Loss Curve Requires Urgent Scaling Up Of Investments To Conserve And Restore

Publication: Down to Earth

There's A Pressing Need For A Dedicated And Broad-Based National Wetlands Inventory Programme

Publication: Down to Earth

World Mangrove Day: Their Conservation In India Is An Impressive Turnaround Story But Challenges Remain

Publication: Down to Earth

Wetlands Are Disappearing Fast. Scaling Up Funding Is The Only Way To Save Them

Publication: Ground Report

Pathways to Resilient Cities: The India Forum for Nature-based Solutions

Publication: NbS Forum

Glaw Lake, Arunachal Pradesh / © Harsh Ganapathi

Stay in Touch

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Wetlands International