

Urban Waterbodies Management in Delhi

Issues, challenges and progress in making Delhi water sensitive

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Wetland Authority of Delhi

- Multiple land owning agencies
- Difficult to implement statutory provisions – coordination
- Land of prime value – contested spaces
- Lack of appreciation about wetlands as an ecological entity – filling and dumping

Issues and Challenges

- Ministry of Environment, Forest and Climate Change, Govt of India notified rules for conservation and management of wetlands (vide notification dated 26.09.2017).
- Wetland Authority for Delhi constituted vide notification dated 23.04.2019.
- Our mandate: Nodal authority; oversee and issue necessary directions for conservation and sustainable management of wetlands.



Wetlands of Delhi Statutory Framework

Progress

Listing wetlands, preparation of brief documents, action plans, recommend wetlands for regulation, and notification.

Case of conservation of some flagship wetlands

- Najafgarh Jheel.



1. Listing and mapping of waterbodies



Listed 1040
wetlands in
Delhi



UID numbers
allotted to 1040
water bodies of
Delhi



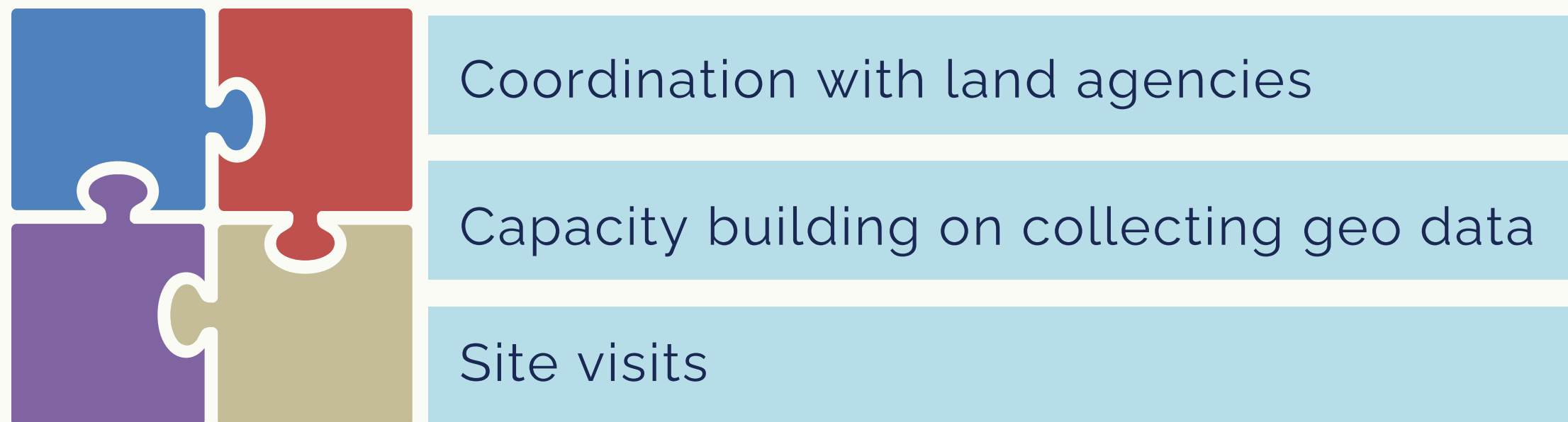
District &
Agency -wise
details of water
bodies now
available on
DPGS website



Publication on
wetlands of
Delhi

Mapping of water bodies

Mapped 1011 out of 1040 Water bodies on GIS platform



2. Distribution of water bodies

| Sl. Nos. | Water Body Owning Agencies | Reconciled No. of Water Bodies (Till date) |
|----------|----------------------------|---|
| 1 | DDA | 832 |
| 2 | BDO/REV. | 132 |
| 3 | EDMC | 3 |
| 4 | SDMC | 13 |
| 5 | NORTH MCD | 5 |
| 6 | DJB | 6 |
| 7 | PWD | 1 |
| 8 | CPWD | 5 |
| 9 | ASI | 15 |
| 10 | FOREST | 18 |
| 11 | DELHI ARCH. DEPTT. | 1 |
| 12 | DELHI WAKF BOARD | 1 |
| 13 | DUSIB | 1 |
| 14 | DSIIDC | 3 |
| 15 | JNU | 3 |
| 16 | IIT | 1 |
| Total | | 1040 |

3. Preparation of brief documents and action plans

Brief Document

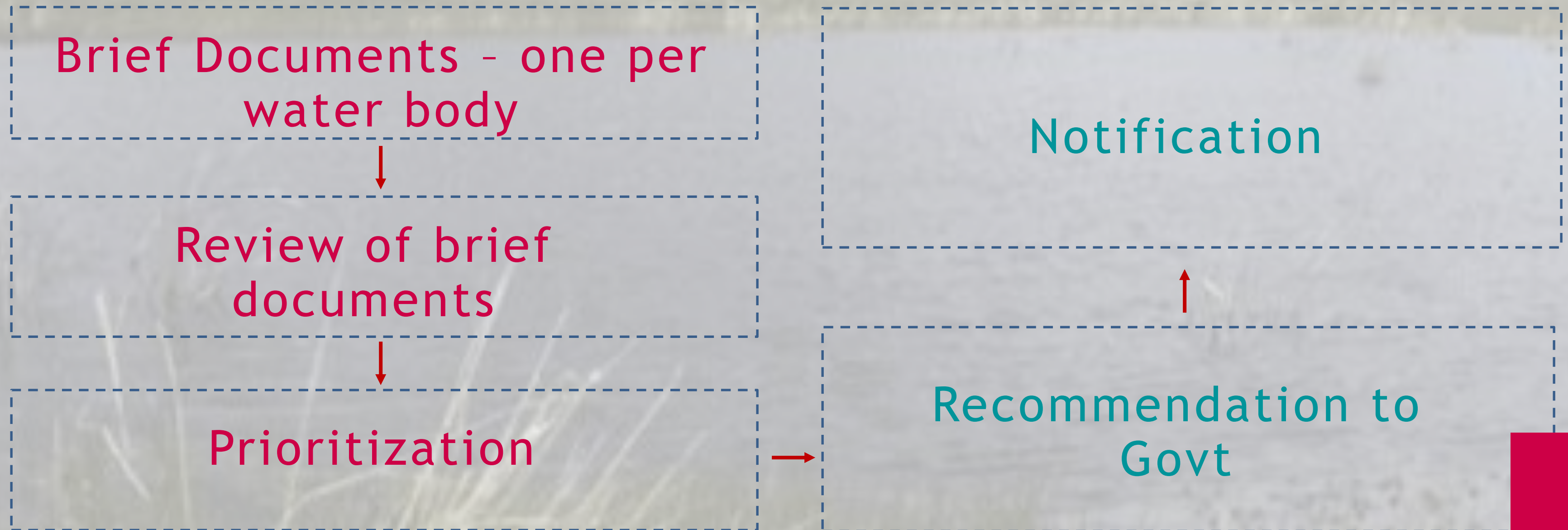
MoEF&CC, GOI notified rules for conservation and management of wetlands (dt. 26.09.2017). And directed that within a period of one year, prepare a brief document for each of the wetland.

Action Plans

An administrative document which will contain conservation/restoration action proposed to be done.

Brief documents

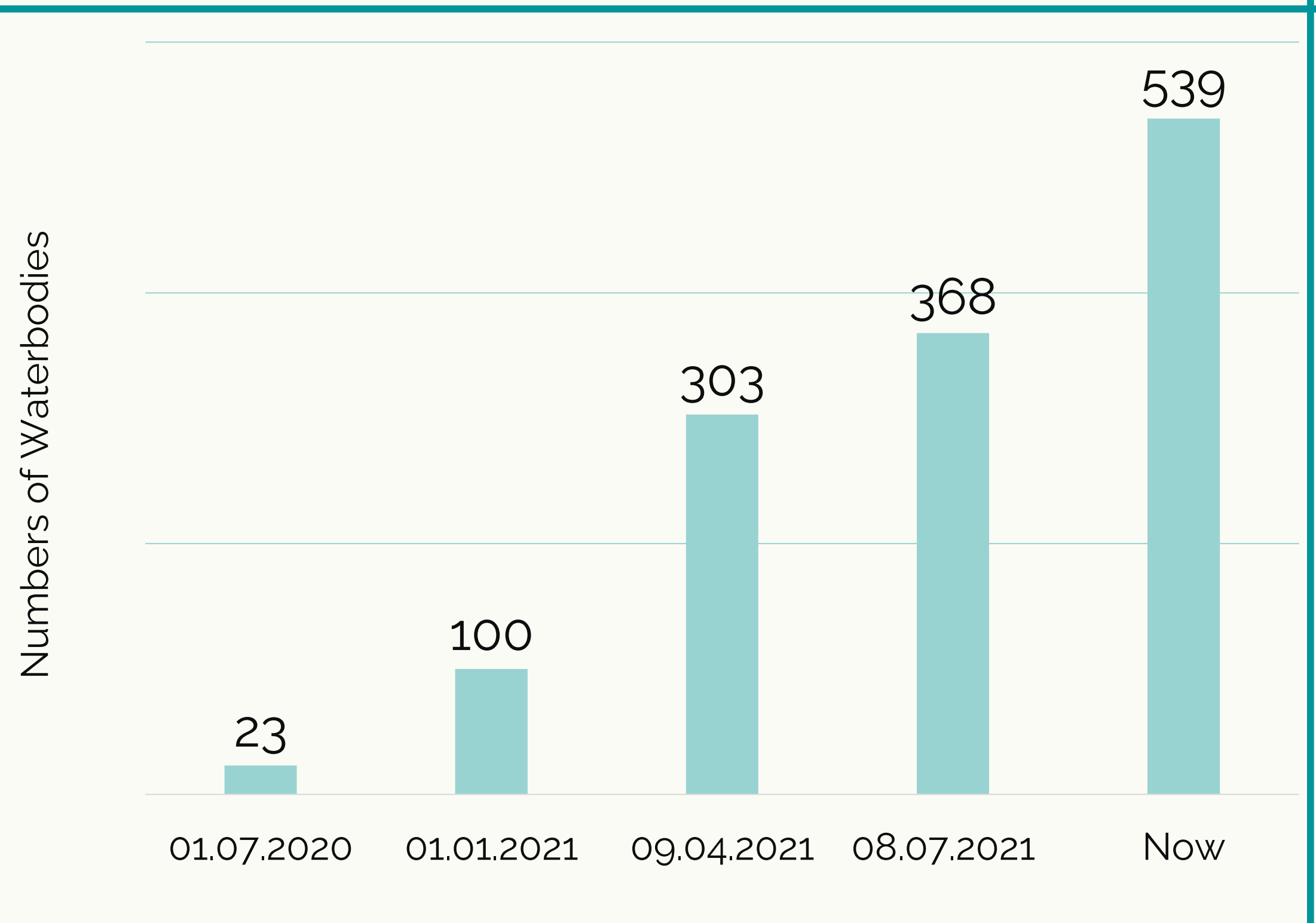
- stepping stone for legal protection



3.1 Progress in number of brief documents prepared

539
Now

23
1st July, 2020



3.2 Progress in number of action plans prepared

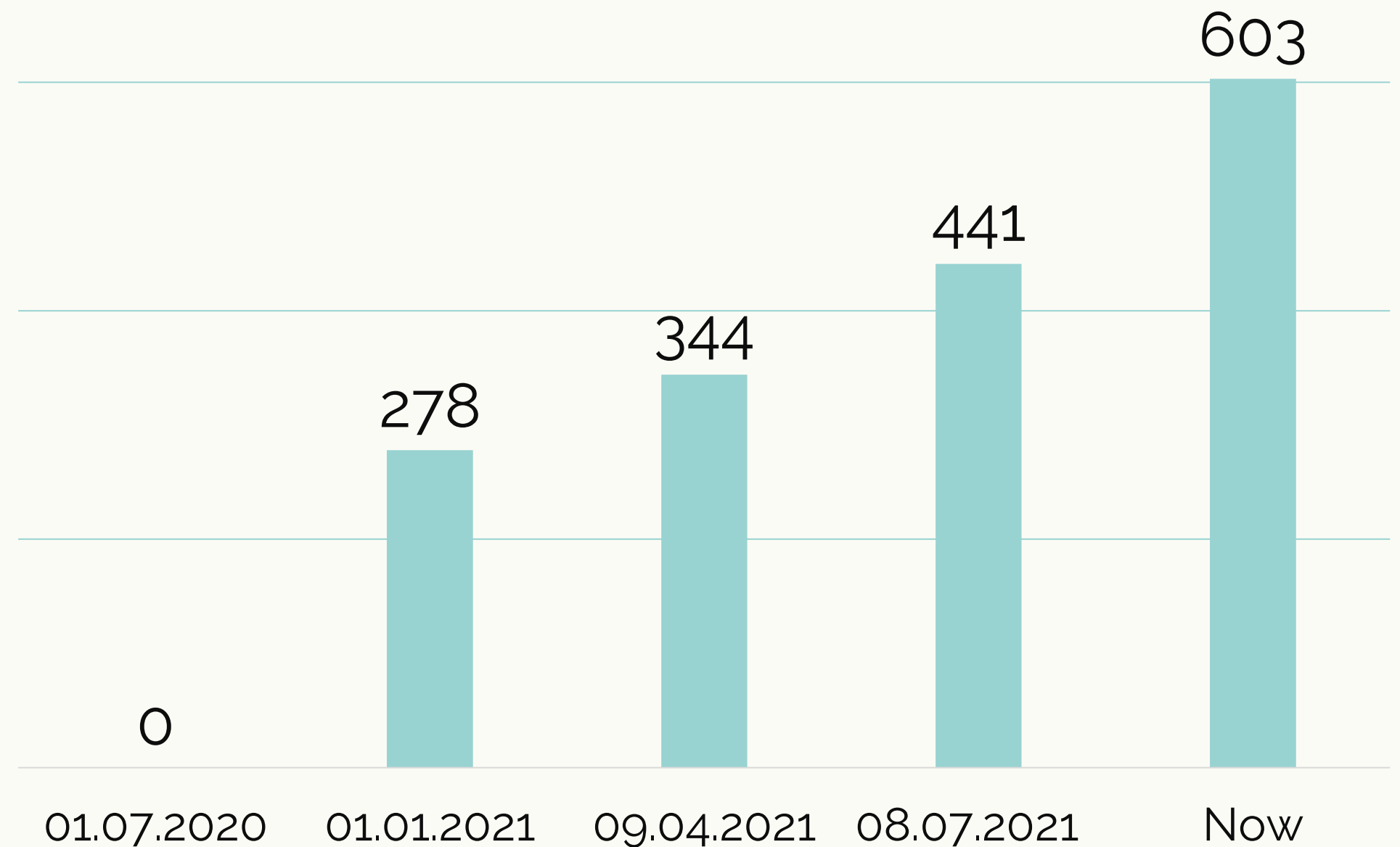
603

Now

0

1st July, 2020

Numbers of Waterbodies



4. Review and grievance framework on Brief Documents



Technical Committee

- Constituted on 01.07.2021
- Under Chairmanship of Dr. Madhu Verma, Chief Economist, World Resources Institute
- Consisting of six wetland experts



Grievance Committees

Formed in every district (1st July, 2021)

Review and grievance framework on Brief Documents

Technical Committee

- First meeting of technical Committee was held on 05.08.2021.
- Started review of brief documents prepared by Departments.
- Submit recommendations as per provisions of Wetlands (Conservation and Management) Rules, 2017.
- **Based on the recommendations, Wetland Authority shall make recommendations to the Govt. for notifying the wetlands.**

5. Assistance for land agencies

a) Technical guidance

- Continuous engagement through handholding workshops.
- A dedicated You Tube channel with training videos for landowning agencies.
- Resource Team facilitated Revenue Department in preparation of brief documents of 130 water bodies.

Assistance/ technical guidance

b) Benchmarks for a healthy wetland

- Water spread in lean season should be maintained at least 60% of HFL.
- Where possible at least 50% of dry revenue area be afforested
- Spread of aquatic invasives, such as water hyacinth, would be checked
- Pond should not be filled using groundwater.
- Wastewater inflow, if not diverted, be treated through natural methods before flowing into waterbody.
- RWA committee to look after conditions of pond, ensure that appropriate regulations on sewage discharge, solid waste dumping, and encroachment are adhered to.

Indicator Parameters

- a) No foul smell
- b) Aquatic life present (fish, introduced turtles)
- c) Surface water quality to meet Class C of CPCB norms

Guidance for land agencies

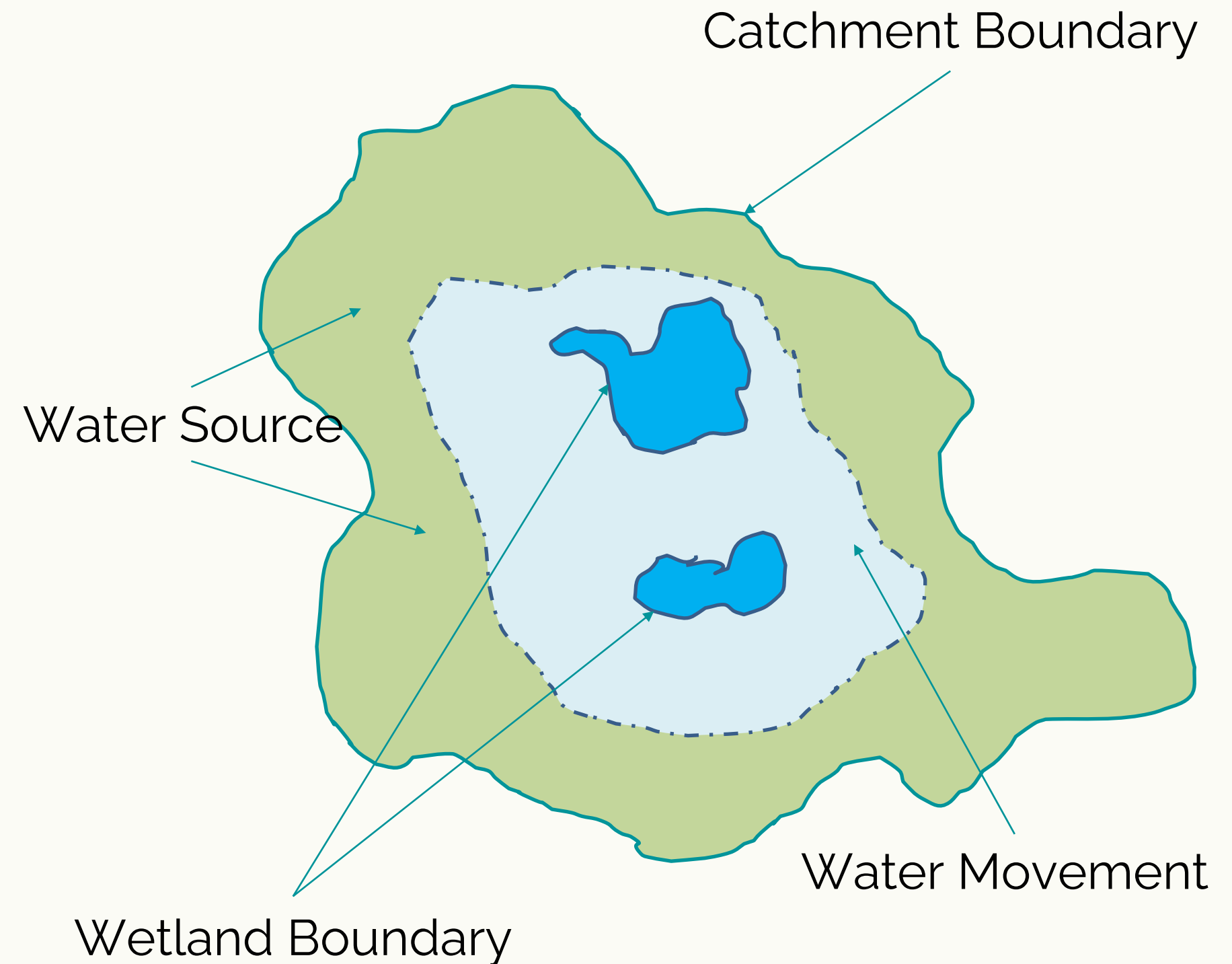
c) Restoration techniques

- Manual of low cost restoration techniques being finalized
- Empanelment of restoration agencies



d) Preparation of Catchment Area Protocol

Comprises specific landscape features that transmit water to the wetland via surface and ground water movements (e.g., contributing surface drainage areas, groundwater recharge areas, river basins).





Preparation of Catchment Area Protocol

Wetland and urban landscape experts
INTACH, Delhi University, Wetland International South Asia, SACON, CSIR, IARI, NRSC, & NGO Yamuna Jiye Abhiyan consulted

- **Demarcate on map and on ground** ecosystem boundaries of each water body (Extent of catchment, floodplains and water covered lands) and drainage lines that feeds water body.
- **Investigate integrity of catchment and identify breakage points** (encroachments, diversions, land use change etc).
- **Prepare water body specific GIS maps** showing clearly the extent of catchment, drainage lines with obstructions if any marked.
- **Draw up plans for restoration** of catchments.



e) Model pond in every district

- To restore / create model ponds.
- Based on Bench marks for Model Ponds



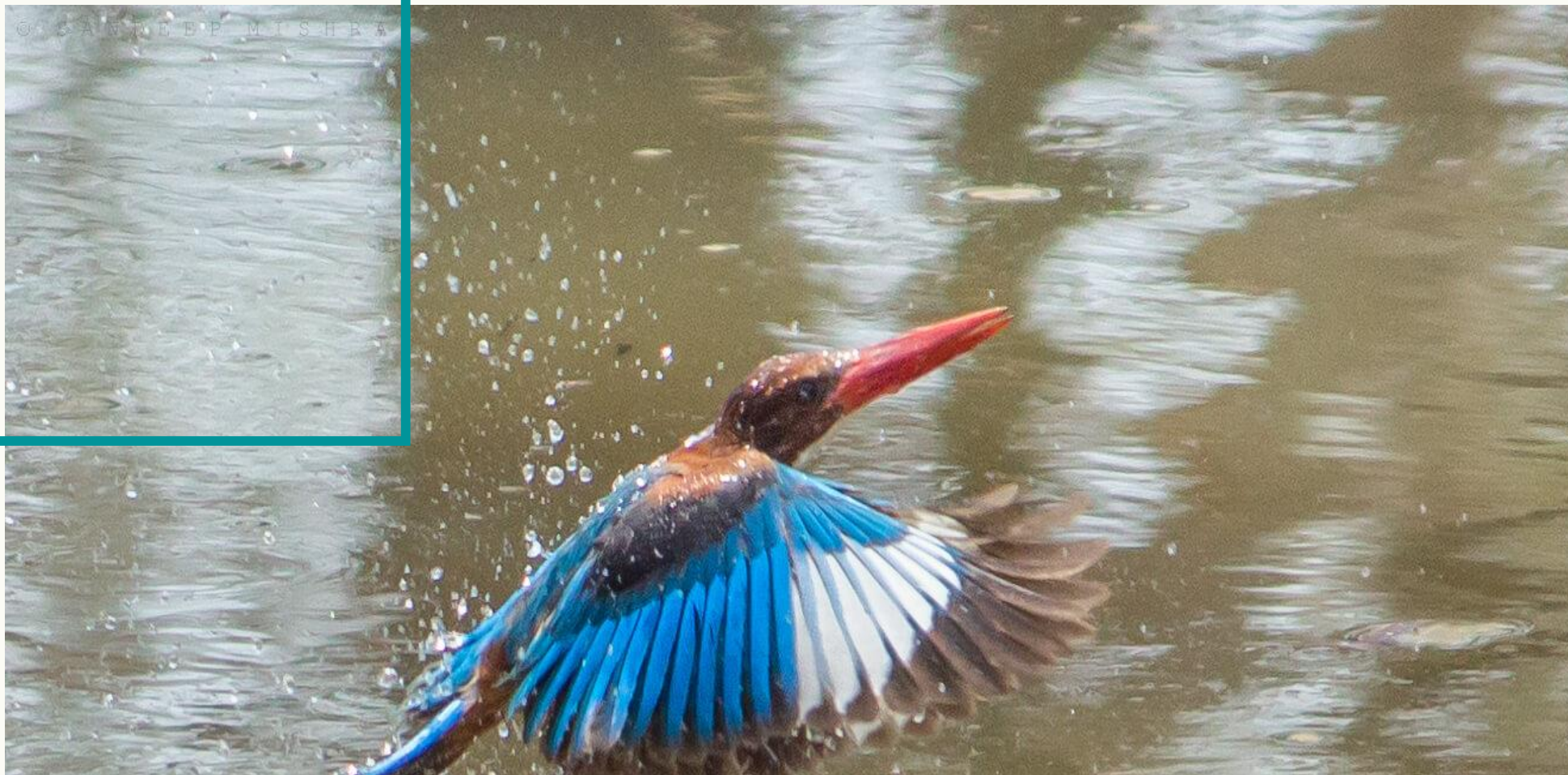
f) Encroachment of water bodies

240

- Time bound encroachment removal plans by land agencies in coordination with districts
- Special Task Force

g) Assessment of Water Quality

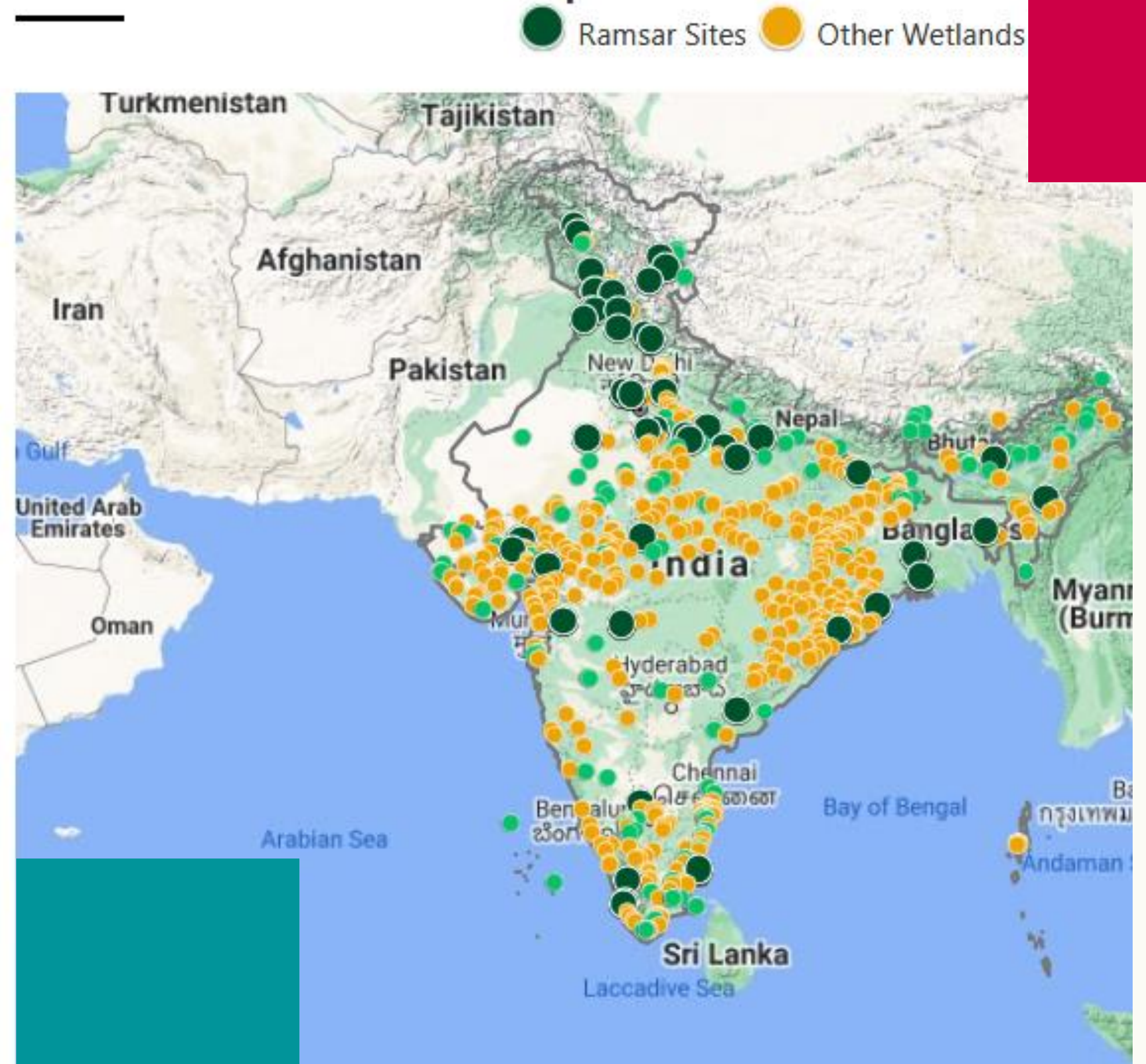
- Land agencies need to do water testing / sampling of all water bodies every month or at least 08 times in a year as per Indicative Guidelines for restoration of water bodies of CPCB.
- One time assessment of water quality done.
- Future: Water quality data to be entered on portal.



6. Wetlands of India Portal:

- Single point access system that synthesizes information on wetland sites, projects, initiatives and trainings.
- Platform for people to learn more about wetlands and get involved in their conservation and management.
- **Delhi chosen as pilot**

Interactive Wetland Map





7. Engagement of third party institution

- To assist the authority in coordination
- Monitoring of implementation of action plans through various line departments.
- Undertake measures for enhancing awareness within stakeholders and local communities on values and functions of Wetlands

8. Stakeholders and public engagement

Wetland Mitras

1

- 27 Mitras identified after public notices
- Meetings with Wetland Mitras
- inviting more applications.

Eco Clubs

3

Eco clubs (2000 Plus Schools/ Colleges) : Animated presentations

Master Trainers

2

Online Training Workshop of Master Trainers during April 2021 towards celebration of Bharat Ka Amrut Mahotsava – 787 School teachers trained on wetland values

4

State Wetland awards

- Youth Leadership
- Scientific Research
- Promoting Awareness
- Local Stewardship

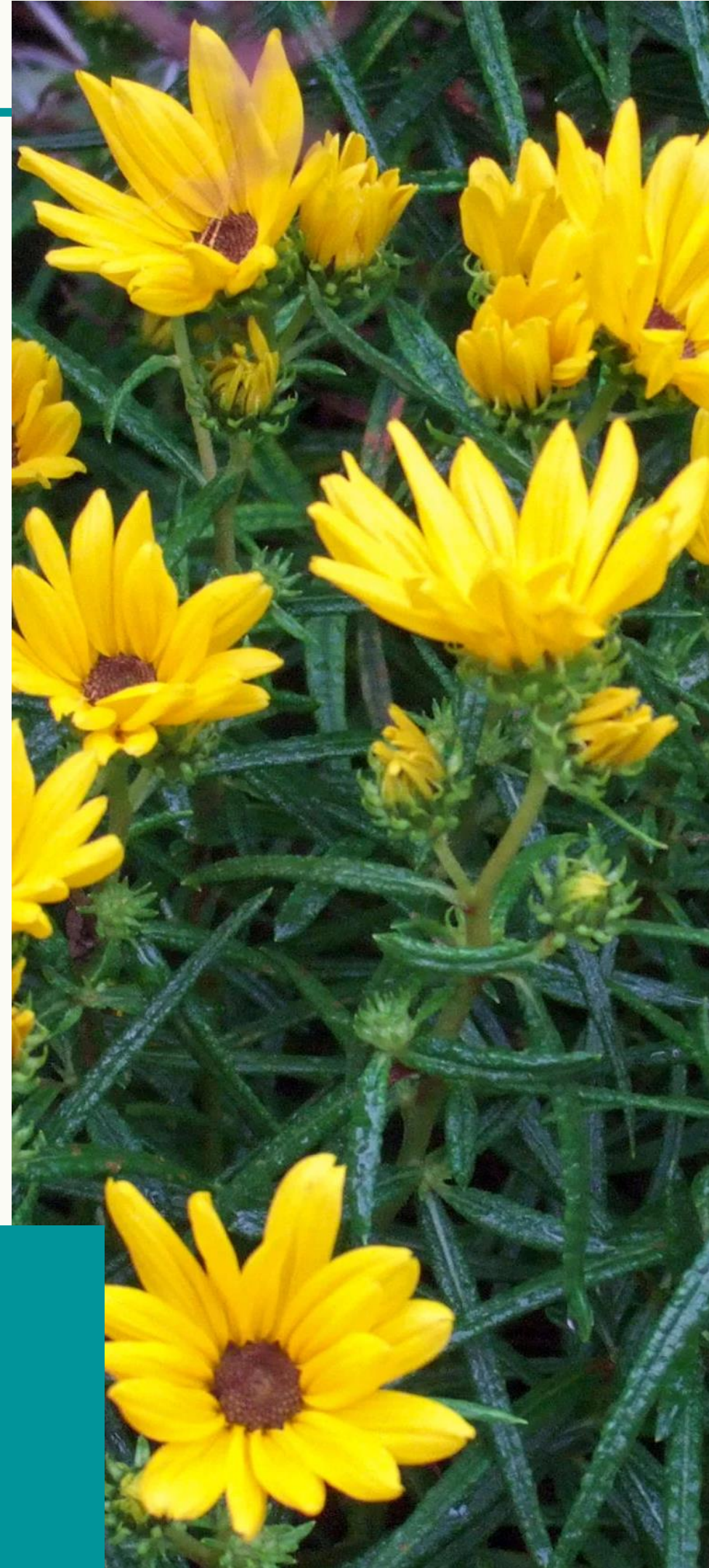
9. Mainstreaming Wetlands conservation

1. Regular monitoring at highest levels
2. Convergence with other programs
3. Public imagination
 - Beautification
 - Flagship water bodies



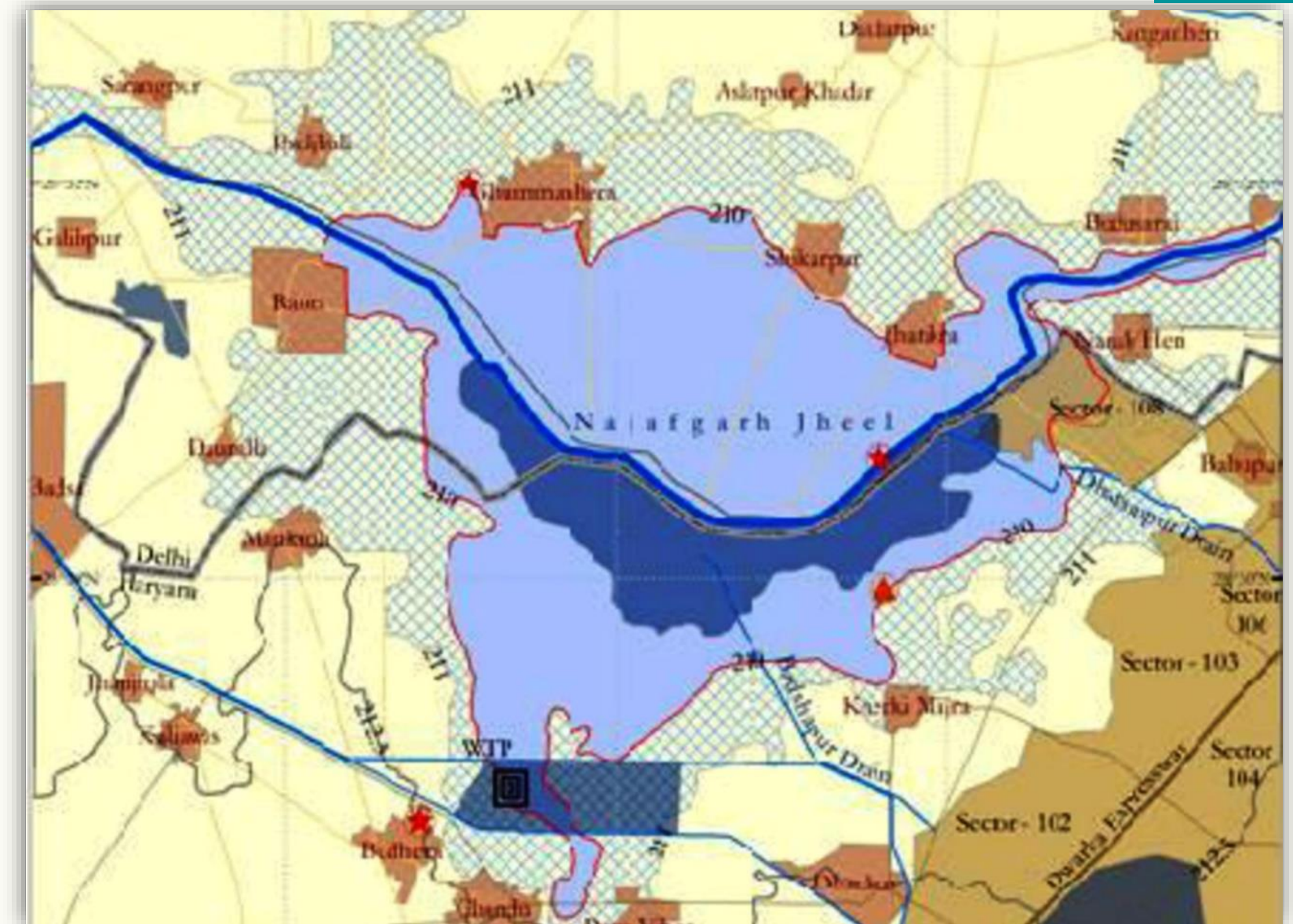
9.1. Prioritization of 100 water bodies for beautification

Criteria: Size and
Water quality, free
from encroachment.

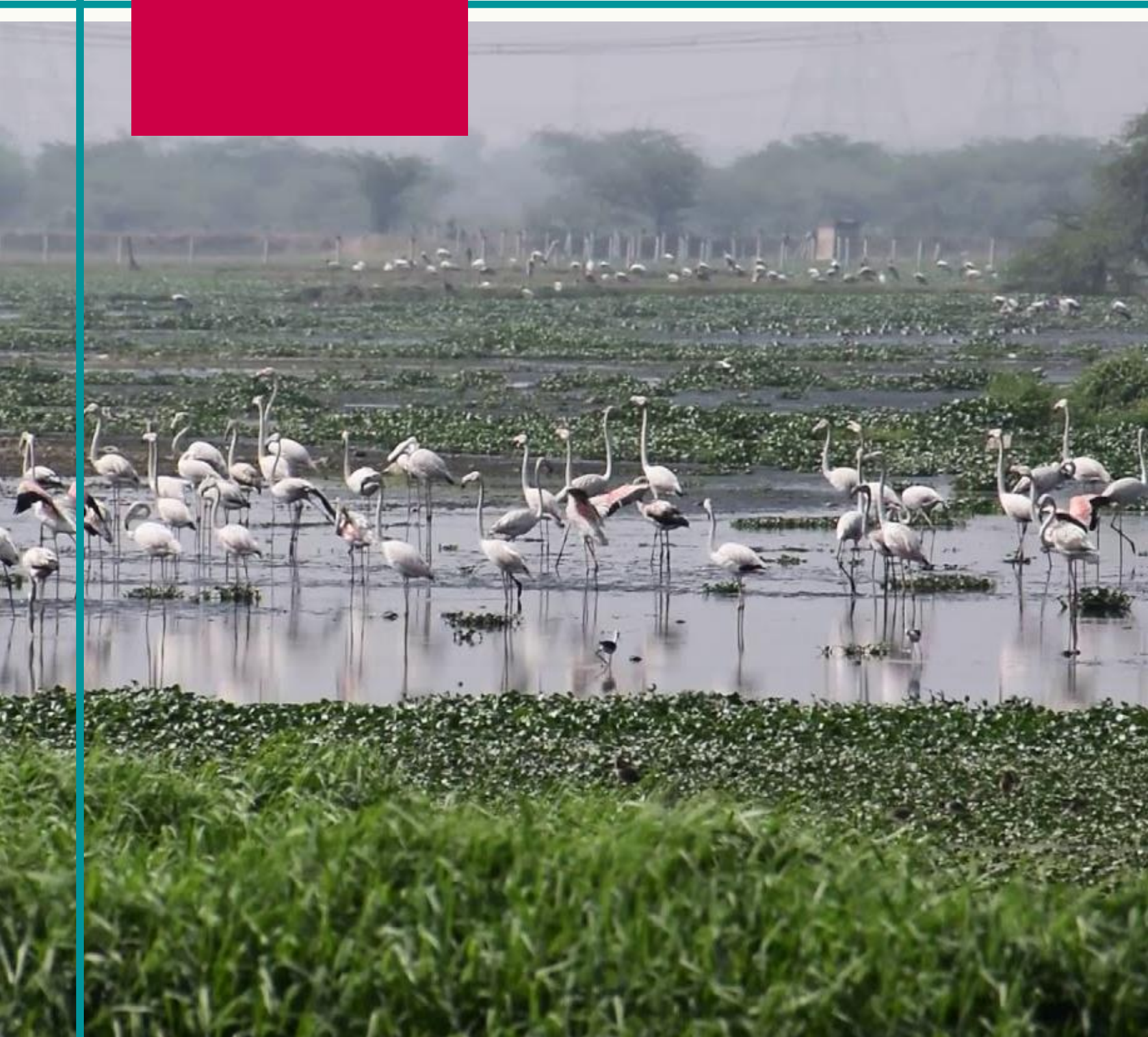


9.2. Flagship Wetlands

Najafgarh Jheel



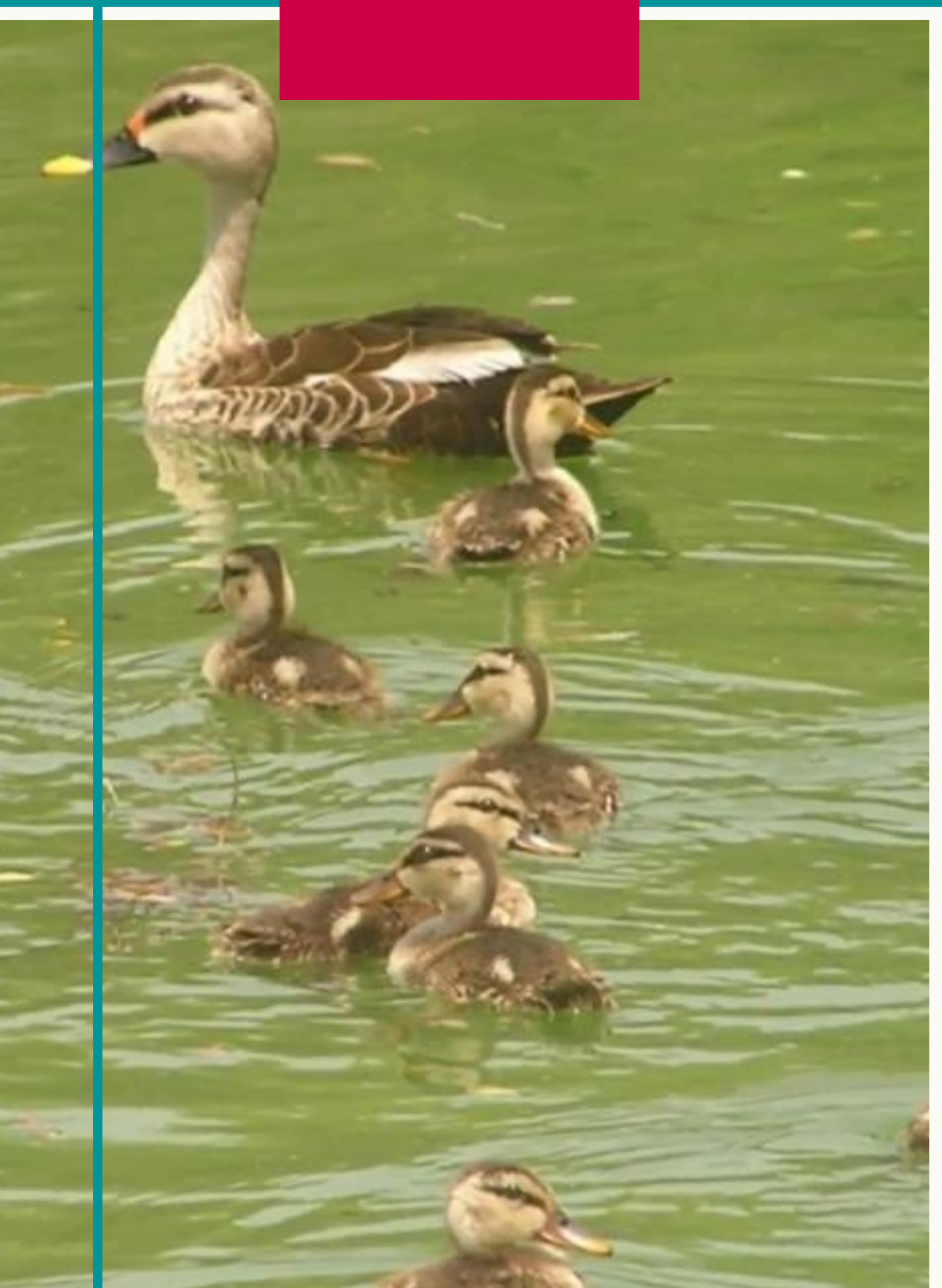
NGT: Submission of EMP by Haryana & Delhi



- NGT
- Wetland Authority prepared Environment Management Plan (EMP) and was duly submitted as per Hon'ble NGTs order.
- Hon'ble NGT acknowledged the same in its order dated 17-06-2021:

Environmental Management Plan

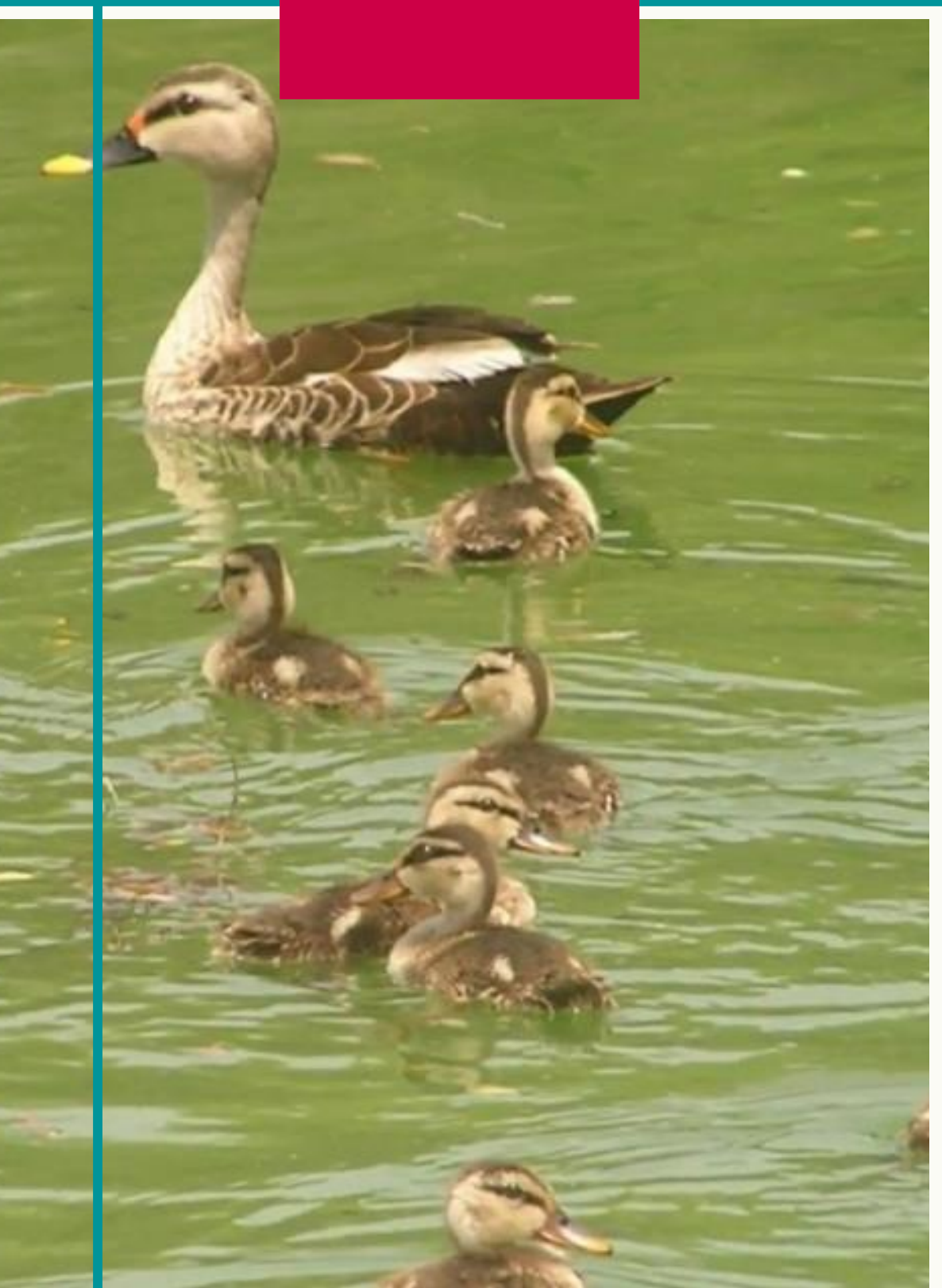
Immediate measures



1. Constitution of Najafgarh Wetlands Committee to:
 - a) oversee compliance with extant regulations;
 - b) Coordinating formulation of integrated management plan and implementation strategy
 - c) Establishing and maintaining an integrated wetland inventory, assessment and monitoring system
 - d) Reviewing development plans concerning the wetlands and its zone of influence, and making recommendations for preventing adverse ecological change
 - e) Communication and outreach on wetland values and functions
 - f) Promoting long term management-oriented multidisciplinary research to support wetland conservation and wise use,
 - g) Habitat restoration for enhanced ecological function.

Environmental Management Plan

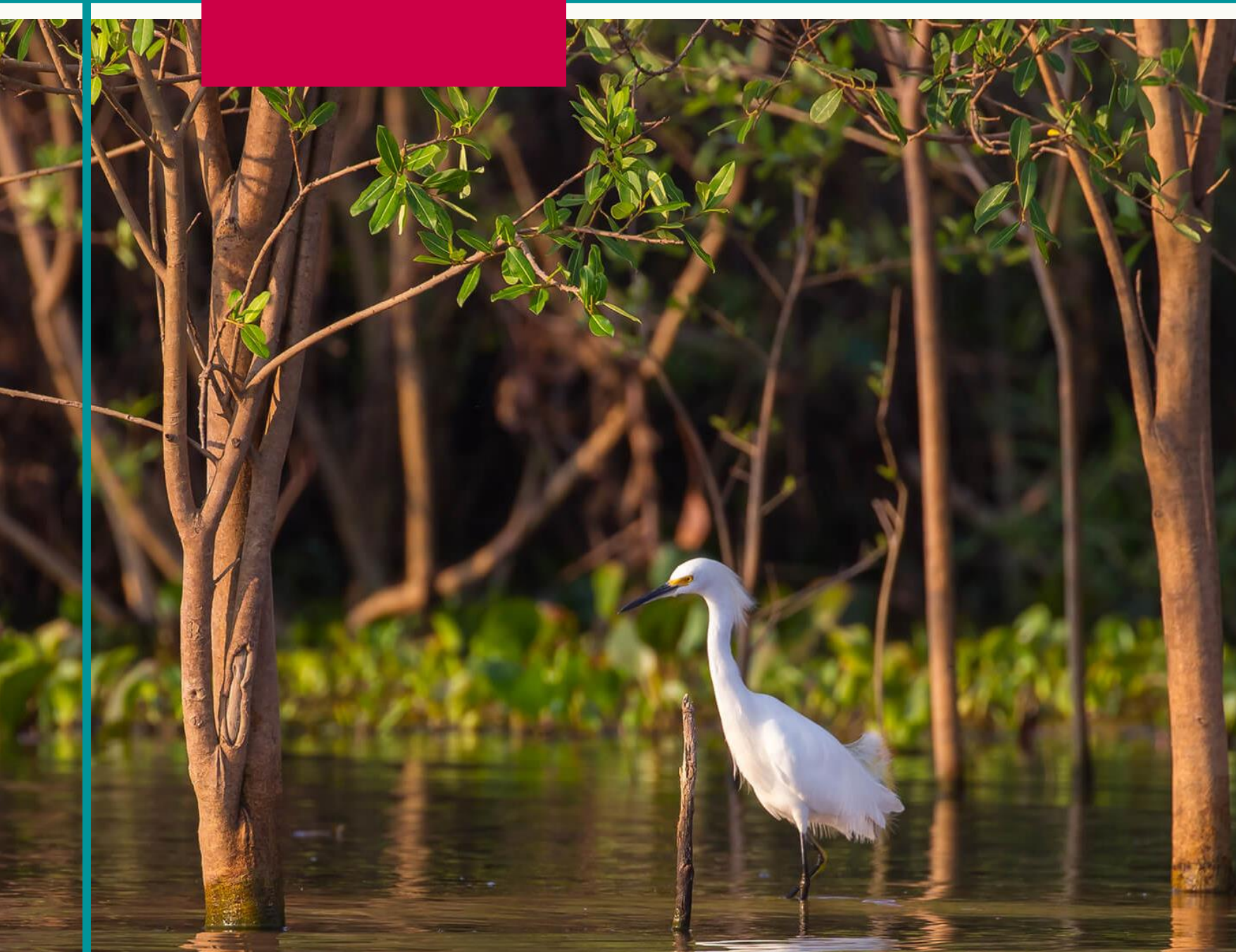
Immediate measures



2. Commissioning hydrological assessment to determine water, sediment and nutrient fluxes; groundwater recharge; and critically silted up areas needing desiltation.
3. Commissioning species inventory

Environmental Management Plan

Medium-term measures (within two - three years)



1. In-situ treatment of major inflowing drains
2. Manual removal of water hyacinth and other aquatic invasive species in select pockets, and developing enterprise for economic utilisation
3. Design **of incentive systems (monetary and non-monetary)** for communities holding private land titles within wetlands to promote their engagement in wetlands conservation and ecological restoration

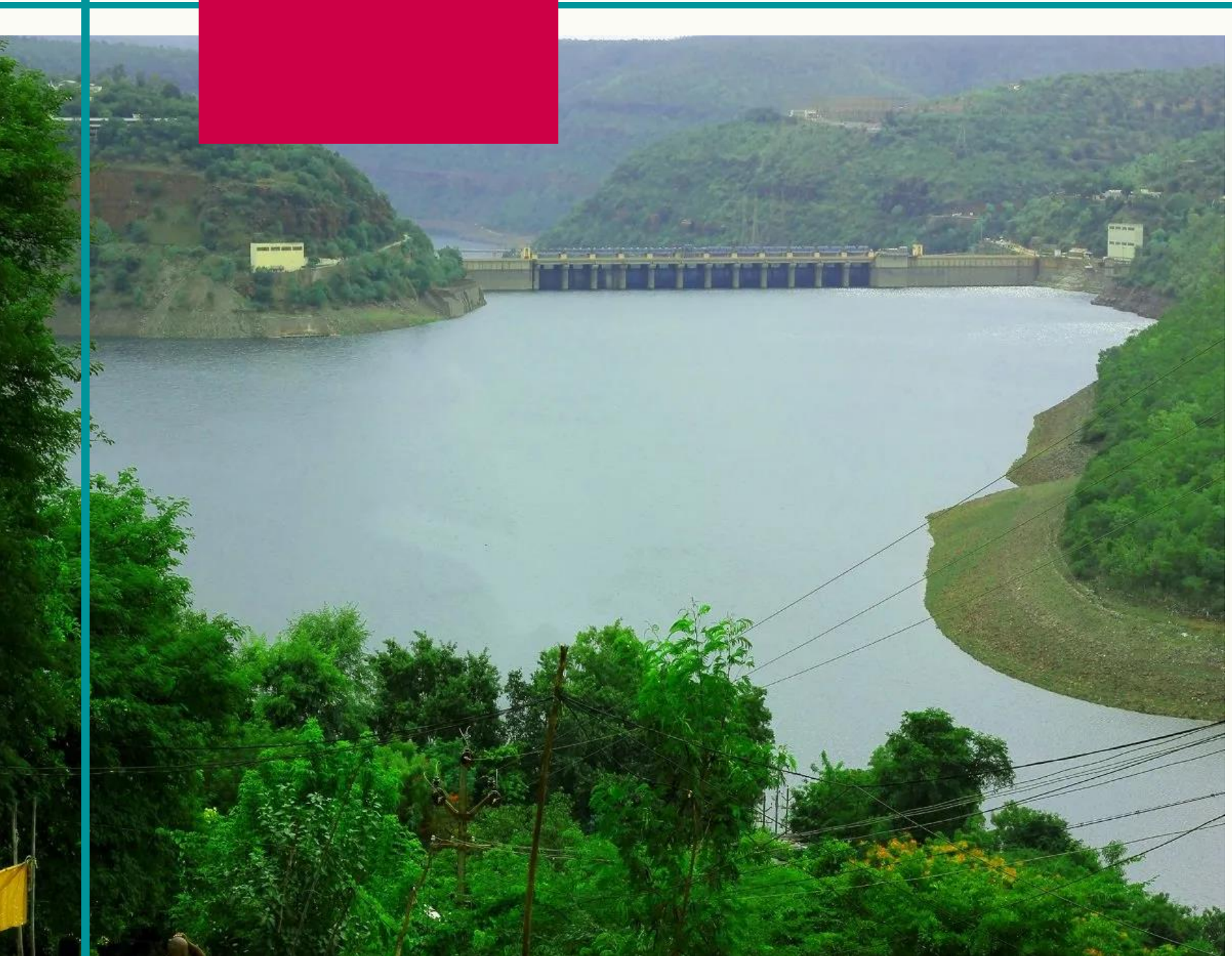
Environmental Management Plan

Long-term measures (within three - five years)



1. Hydrological regime restoration by water level regulation
2. Implementing ecological restoration measures (as recommended in management plan)

Execution of EMP of Najafgarh Jheel



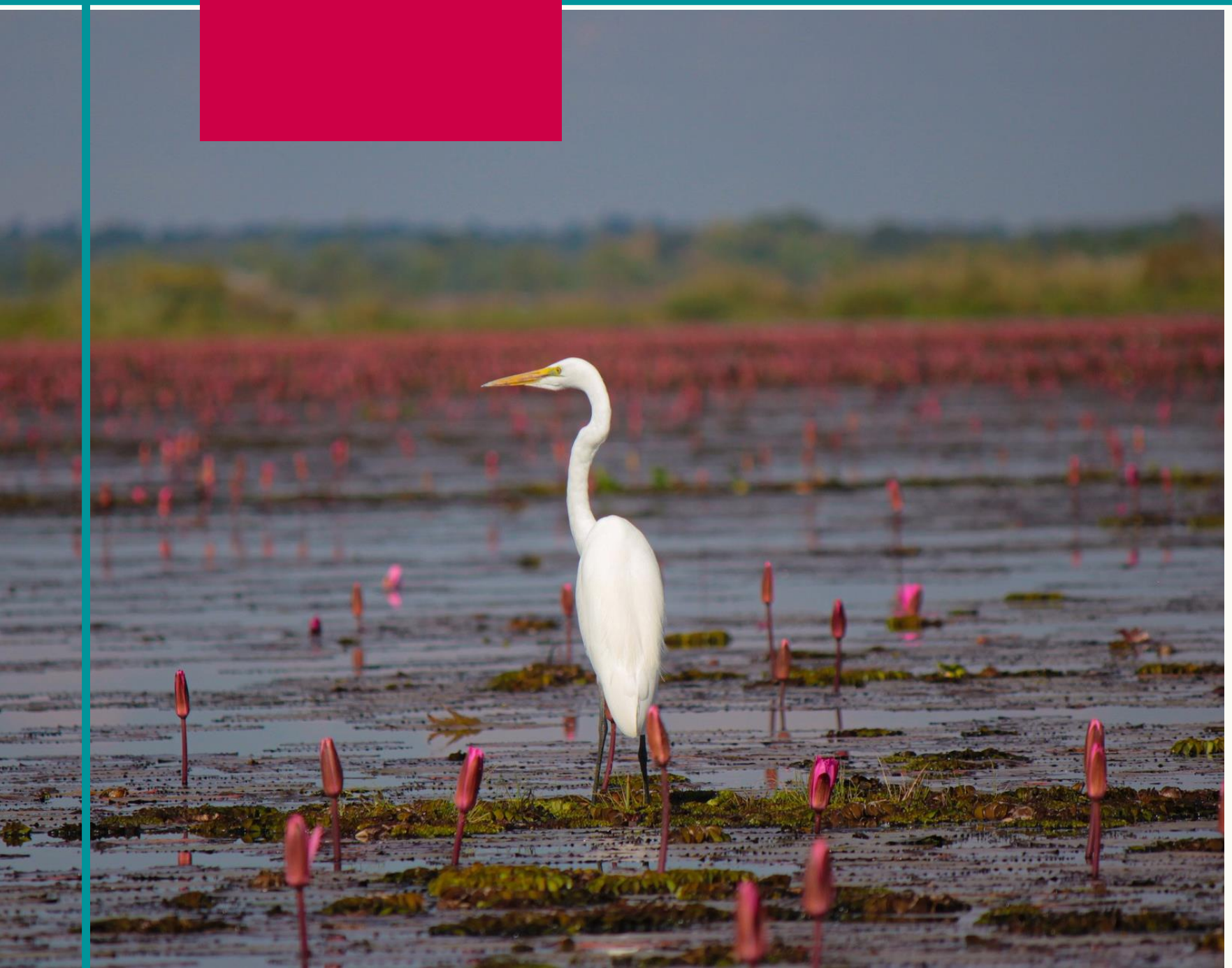
- Trans-boundary wetlands: Central Govt. shall coordinate with concerned State/ UT Administrations
- Najafgarh Jheel is a Wetland falling in both Haryana and Delhi

Execution of EMP

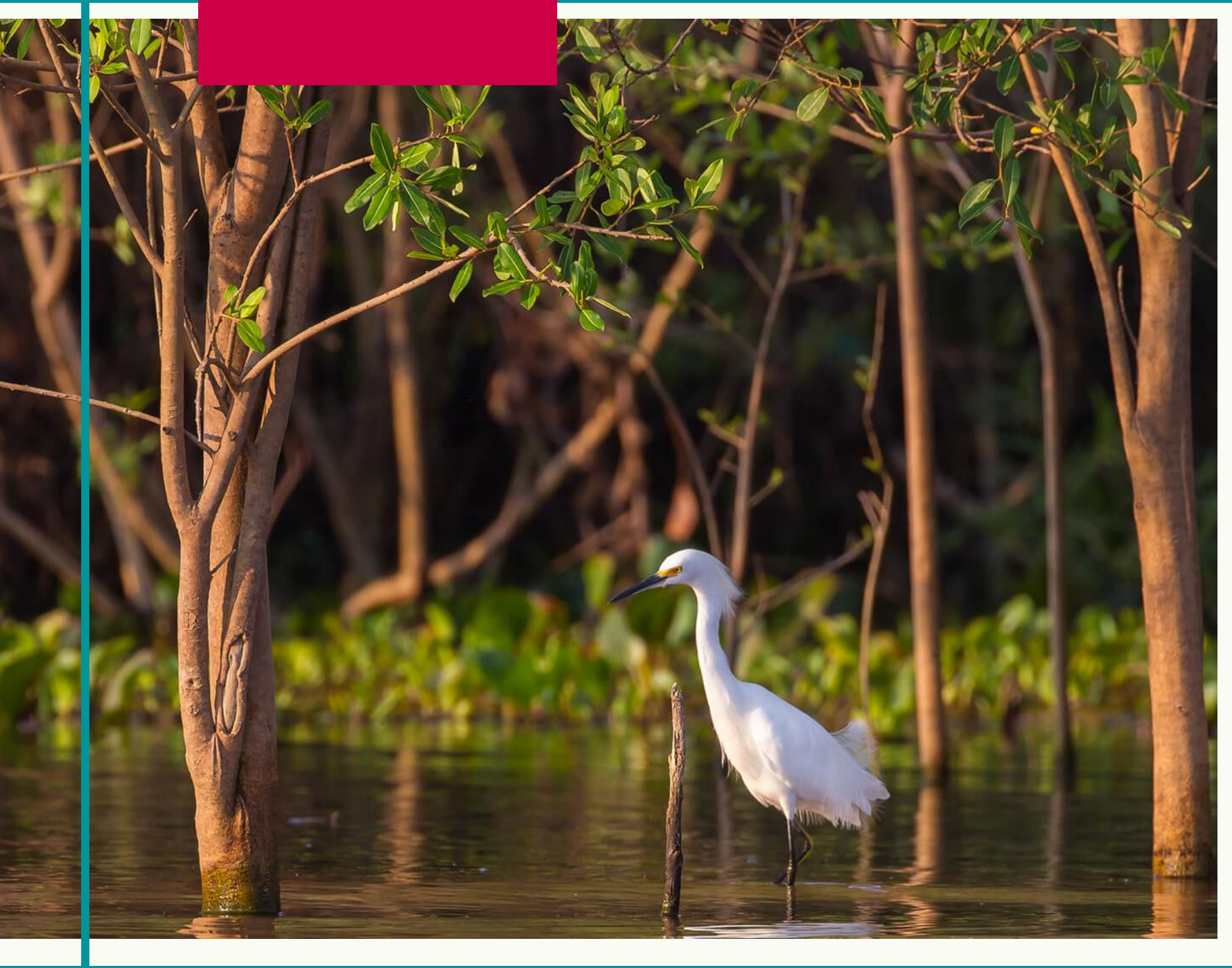
- Ministry of Environment & Forest, Govt. requested in Aug 2021 to clarify whether Delhi Govt. should go ahead with execution of EMP prepared
 - or wait for Haryana to submit the EMP of Najafgarh Jheel falling under their jurisdiction.

Meanwhile, a draft action plan extracted from EMP is being submitted to the expert committee.

- To identify action points which are independent of Haryana actions, for advance action by the Delhi Govt.



Similar conservation efforts: flagship wetlands



1. **Tikri Kurd Lake**
2. **Bhalaswa Lake**

Roadmap





THANK YOU

Wetland Authority of Delhi
Department of Environment, Govt. of NCT of Delhi