

**BEFORE THE NATIONAL GREEN TRIBUNAL**  
**PRINCIPAL BENCH AT NEW DELHI**  
**EXECUTION APPLICATION NO. : 16 OF 2019**  
**IN**  
**ORIGINAL APPLICATION NO.: 153 OF 2014**

**IN THE MATTER OF:**

Indian National Trust for Art and Cultural Heritage

...Applicant

Versus

Government of NCT of Delhi & Ors.

...Respondents

**INDEX**

<b>S. No.</b>	<b>PARTICULARS</b>	<b>PAGE NOS.</b>
1.	Brief Submissions on behalf of the Applicant	669-675
2.	<b>ANNEXURE A-1</b>  A True Copy of the Letter, dated: 18.04.2017, sent by the Engineer-in-Chief, Irrigation and Water Resources Department of the State of Haryana to Dr. M. Ramesh, Joint Director (S), Ministry of Environment, Forest & Climate Change (MOEF&CC), as also containing the Brief Document prepared by the State of Haryana for Najafgarh Jheel for its	676-688

	notification as Wetland	
3.	<b>ANNEXURE A-2</b>  A True Copy of the relevant pages of the National Wetland Atlas [Haryana section], showing that The present atlas is part of the national level data base and deals with the state of Haryana	689-690
4.	<b>ANNEXURE A-3</b>  A True Copy of the Google Satellite Image, dated: 24.11.2022, showing the water spread of the Najafgarh Jheel in Haryana at 700 ha	691-692

Through



**AKASH VASHISHTHA**  
(Advocate for the Applicant)  
490, Lawyers' Chambers, Block-II,  
Delhi High Court, New Delhi-110003

Email: [akashvashishtha.official@gmail.com](mailto:akashvashishtha.official@gmail.com)

Ph: +91-9717006866

Place:- Delhi

Dated:- 12.02.2024

**BEFORE THE NATIONAL GREEN TRIBUNAL  
PRINCIPAL BENCH AT NEW DELHI  
EXECUTION APPLICATION NO. : 16 OF 2019  
IN  
ORIGINAL APPLICATION NO.: 153 OF 2014**

**IN THE MATTER OF:**

Indian National Trust for Art and Cultural Heritage

...Applicant

Versus

Government of NCT of Delhi & Ors.

...Respondents

**BRIEF SUBMISSIONS ON BEHALF OF THE APPLICANT**

**THE APPLICANT ABOVE-NAMED**

**MOST RESPECTFULLY SHOWETH:**

1. That during the copuirse of the hearing on 22.12.2023 in the above-titled matter, this Hon'ble Tribunal had orally directed the Applicant to produce records depicting and earmarking the Najafgarh Jheel as a wetland.
2. That the Engineer-in-Chief, Irrigation and Water Resources Department of the State of Haryana, vide Letter, dated: 18.04.2017, had sent the Brief Document of Najafgarh Jheel to Dr. M. Ramesh, Joint Director (S), Ministry of Environment, Forest & Climate Change (MOEF&CC), requesting the latter to notify the Najafgarh Jheel as a wetland.

The said letter states as follows:

“Subject: Notification of Najafgarh Jheel as Wetland

*As per directions of the Hon'ble National Green Tribunal, the Government of Haryana has initiated the work for identification of water bodies and notification of Wetlands in State of Haryana. HARSAC (Haryana Space Application Centre) has given a list of 51 Nos. water bodies having area more than 10 Ha, as per their latest study of Haryana Wetland Atlas. Following the Wetland (Conservation and Management) Rules, 2010, Irrigation & Water Resources Department, Haryana has taken up the task of notification of Wetlands and their restoration there upon.*

*Najafgarh Jheel is one such water body having area more than 50 Ha. which has been initially taken up for Notification by the Central Government. The details of “Brief Document’ for identification and notification of Najafgarh Jheel as Wetland has been attached for your consideration as ANNEXURE-X. The requisite information in the prescribed format/form has been duly filled and attached as Annexure 1, 2 &3. A map comprising the location of Najafgarh Jheel in district Gurugram has also been attached as Annexure IV & V. The “Brief Document” has been prepared as per the guidelines of Wetland (Conservation & Management) Rules, 2010.*

*You are, therefore, requested to kindly consider the details pertaining to “Brief Document” of Najafgarh Jheel as per*

the guidelines of Wetland (Conservation & Management) Rules, 2010 and arrange to notify Najafgarh Jheel as Wetland for an area of 120.80 Ha as identified by HARSAC.”

(Emphasis supplied)

It is, thus, admitted by the State of Haryana that the Najafgarh Jheel is a wetland and the same is required to be notified as a Wetland.

(A True Copy of the Letter, dated: 18.04.2017, sent by the Engineer-in-Chief, Irrigation and Water Resources Department of the State of Haryana to Dr. M. Ramesh, Joint Director (S), Ministry of Environment, Forest & Climate Change (MOEF&CC), as also containing the Brief Document prepared by the State of Haryana for Najafgarh Jheel for its notification as Wetland, is annexed herewith and marked as **ANNEXURE A-1**)

3. That the National Wetland Atlas for Haryana clearly mentions Najafgarh Lake as an important depression of Gurugram district. It is submitted that only a depression on a given land can hold and retain waters, unlike a flat terrain. All water bodies, holding and retaining water, are, necessarily depressions.

The relevant extracts of the Haryana Wetland Atlas pertaining to Najafgarh Jheel as a Wetland are extracted as under:

“The drainage of the district is typical of the arid and semi-arid areas. It comprises of large depressions and seasonal streams. Important depressions of the district are: Khalilpur lake, Chandaini lake, Sangel-Ujjina lake, Kotla Dahar lake and **Najafgarh lake**. Sahibi and Indari are two important seasonal streams of the district.”

Thus, Najafgarh is described as a depression as well as a lake.

(A True Copy of the relevant extracts of the Haryana Wetland Atlas pertaining to Najafgarh Jheel as a Wetland are annexed as ANEXURE A-7; Page Nos. 30-32 to the Execution Application)

4. That the National Wetland Atlas [Haryana section] has been prepared and developed by HARSAC [Haryana Remote Sensing Applications Centre], on behalf of ISRO.

The said Wetland Atlas states:

*“The present atlas is part of the national level data base and deals with the state of Haryana”.*

(A True Copy of the relevant pages of the National Wetland Atlas [Haryana section], showing that The present atlas is

part of the national level data base and deals with the state of Haryana is annexed herewith and marked as **ANNEXURE A-2)**

5. That the Oxford Dictionary defines Lake as: “a large area of water that is surrounded by land”.
6. That the Ramsar Convention and IUCN defines wetlands as ““areas of marsh, fen, peatland or water, **whether natural or artificial, permanent or temporary**, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six meters”.
7. That as per the Wetland (Conservation and Management ) Rules, 2017, wetland means “an area of marsh, fen, peatland or water; **whether natural or artificial, permanent or temporary**, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six meters”.
8. That according to the principle laid down in Rule 5(4)(i) of the Wetland (Conservation and Management ) Rules, 2017, in cases wherein lands within boundary of notified wetlands or wetlands complex **have private tenancy rights, recommend mechanisms for maintenance of ecological character through promotional activities.**

9. That the water spread of the Najafgarh Jheel in Haryana stood at 700 ha, as per the Google Satellite Image, dated: 24.11.2022.

(A True Copy of the Google Satellite Image, dated: 24.11.2022, showing the water spread of the Najafgarh Jheel in Haryana at 700 ha, is annexed herewith and marked as **ANNEXURE A-3**)

### **PRAYER**

In light of the facts and circumstances setout herein-above, it is, most humbly, prayed that this Hon'ble Tribunal, may, graciously, be pleased to:

- A. Direct the State of Haryana to submit its Brief Document for Najafgarh Jheel to the MOEF & CC, holding areas between within the contours level 210 m and 211 m as no-construction zone, in accordance with the Report, dated: 27.09.2021, submitted by the Special Secretary, Environment and Climate Change Department, Government of Haryana before this Hon'ble Tribunal, in a time-bound manner;
- B. Direct the MOEF & CC to finalise the draft Notification of Najafgarh Jheel, within 15 days from the receipt of such Brief Document from the State of Haryana and

undertake all ancillary and incidental activities towards the Notification thereof;

- C. Direct the State of Haryana to cease all further Change of Land Use (CLU) grants as well as halt all building activity wherever building activity is incomplete and buildings unoccupied within 212.5 m amsl, on account of being in hazard zone (falling under Seismic Zone-IV as well as the Zone of Soil Liquefaction);
- D. Pass any other or further Order(s) or direction(s) as this Hon'ble Tribunal may deem fit and proper in the facts and circumstances of the case.

FILED BY:



**AKASH VASHISHTHA**  
(Advocate for the Applicant)  
490, Lawyers' Chambers, Block-II,  
Delhi High Court, New Delhi-110003  
Email: [akashvashishtha.official@gmail.com](mailto:akashvashishtha.official@gmail.com)  
Ph: +91-9717006866

**PLACE:- DELHI**  
**DATED:- 12.02.2024**

F. No. J-22012/31/2017-CS (W)  
Government of India  
Ministry of Environment, Forest and Climate Change  
(National River Conservation Directorate)

Pt. Deendayal Antyodaya Bhawan (1<sup>st</sup> floor),  
CGO Complex, Lodhi Road  
New Delhi-110003

Dated: 12.10.2017

To

Shri Pankaj Gupta,  
B7/5164, Vasant Kunj,  
New Delhi -110070

**Sub: Application under RTI Act, 2005 regarding draft document submitted by the Government of Haryana for notification of Najafgarh Lake/wetland Gurgaon, Haryana**

Sir,

This refers to your online RTI application No. MOENF/R/2017/50884 dated 23.08.2017 (received by the undersigned on 28.08.2017) on the above subject.

2. A copy of the Brief Document of Najafgarh Jheel submitted by the State Government vide letter dated 18.04.2017 is enclosed.
3. The address of the First Appellate Authority for the subject matter is Dr. A. Duraisamy, Adviser, National River Conservation Directorate, Ministry of Environment, Forest & Climate Change, Pt. Deendayal Antyodaya Bhawan (1<sup>st</sup> floor), CGO Complex, Lodhi Road, New Delhi-110003.
4. This disposes off your application. The inadvertent delay in providing the information/document is deeply regretted and the same is being provided free of cost.

Yours faithfully,

Encl. as above

(Dr. M. Ramesh)  
Scientist 'D' & CPIO

No. 457-58 /Const./17

Dated: 18/04/2017

From

Engineer-in-Chief,  
Irrigation & Water Resources Department,  
Haryana, Panchkula.

To

Dr. M. Ramesh,  
Joint Director (S),  
Pandit Deendayal Antyodaya Bhawan (Ist Floor),  
CGO Complex, Lodhi Road, New Delhi-110003.

**Subject: Notification of Najafgarh Jheel as Wetland.**

As per the directions of Hon'ble National Green Tribunal, the Government of Haryana has initiated the work for identification of water bodies and notification of Wetlands in State of Haryana. HARSAC (Haryana Space Application Centre) has given a list of 51 Nos. water bodies having area more than 10 Ha. as per their latest study of Haryana Wetland Atlas. Following the Wetland (Conservation and Management) 2010 Rules, Irrigation & Water Resources Department, Haryana has taken up the task of notification of Wetlands and their restoration there upon.

Najafgarh Jheel is one such water body having area more than 50 Ha. which has been initially taken up for notification by the Central Government. The details of "Brief Document" for identification and notification of Najafgarh Jheel as Wetland has been attached for your consideration as Annexure-X. The requisite information in the prescribed format/form has been duly filled and attached as Annexure 1, 2 & 3. A map comprising the location of Najafgarh Jheel in district Gurugram has also been

attached as Annexure-IV&V. The "Brief Document" has been prepared as per the guidelines of Wetland (Conservation & Management) Rules, 2010.

You are therefore requested to kindly consider the details pertaining to "Brief Document" of Najafgarh Jheel as per the guidelines of Wetland (Conservation and Management) Rules, 2010 and arrange to notify Najafgarh Jheel as Wetland for an area of 120.80 Ha as identified by HARSAC.

DA/As above,

 18/04  
Executive Engineer/Const.  
for Engineer-in-Chief, Irr.& W.R. Deptt.  
Haryana, Panchkula

CC: PS to Principal Secretary, Irrigation & W.R. Department, Haryana  
for information.

**FORMAT FOR BRIEF DOCUMENT ON WETLAND PROPOSED TO BE  
NOTIFIED UNDER WETLANDS (CONSERVATION AND  
MANAGEMENT) RULES, 2010**

**SECTION 1: IDENTIFICATION, LOCATION AND JURISDICTION**

- 1.1 **Name of the Wetland** (Alternate names, including in local language should be given in parenthesis after official name)

**NAJAFGARH JHEEL**

- 1.2 **Name of the Village(s) and Tehsil(s)**

**KHERKI MAJRA, TEHSIL & DISTRICT - GURUGRAM**

- 1.3 **Name of the District(s)**

**GURUGRAM**

- 1.4 **State / Union Territory: HARYANA**

- 1.5 **Geographical coordinates (Latitude and Longitude, to degree, minutes and second)**

Latitude: 28°30'10"N

Longitude: 76°56'39"E

} range

- 1.6 **Name of the protected area (please write 'not applicable' if the wetland is not located in a protected area)**

**N.A.**

- 1.7 **Name of the State Government/UT Administration Department/Agency which has jurisdiction over the wetland**

→ **PRIVATE LAND**

**SECTION 2: SITE CHARACTERISTICS**2.1 Area of wetland (ha) **120.80 Ha**

2.2 Wetland type (Please tick appropriate category and sub-category)

Category	Subcategory
Natural (Inland)	<input checked="" type="checkbox"/> Permanent lakes <input type="checkbox"/> Seasonal/ intermittent lakes <input type="checkbox"/> Permanent streams/ creeks <input type="checkbox"/> Seasonal/ intermittent streams/ creeks <input type="checkbox"/> Oxbow <input type="checkbox"/> River floodplain <input type="checkbox"/> Permanent freshwater marshes <input type="checkbox"/> Seasonal/ intermittent freshwater marshes <input type="checkbox"/> Shrub-dominated wetlands
	<input type="checkbox"/> Tree-dominated wetlands <input type="checkbox"/> Geothermal wetlands <input type="checkbox"/> Karst and other subterranean hydrological systems
<input type="checkbox"/> Natural (Coastal)	<input type="checkbox"/> Coastal lagoon <input type="checkbox"/> Estuary <input type="checkbox"/> Intertidal mud, sand or salt flats <input type="checkbox"/> Mangroves <input type="checkbox"/> Coral reefs
<input type="checkbox"/> Human-made	<input type="checkbox"/> Aquaculture pond <input type="checkbox"/> Tank <input type="checkbox"/> Saltpan <input type="checkbox"/> Dam / Reservoir

2.3 Depth (m): Average **1.60 m** Maximum **2.50 m** Highest ever recorded **2.50 m**2.4 Elevation (above mean sea level) **208.50 m**2.5 Water regimes

a) Main source of water (tick all applicable)

- Rainfall                       Groundwater  
 Catchment runoff  
 Direct / indirect inflow from river

- Others, please specify \_\_\_\_\_  
 Name of River/Canal system **WJC System**

b) Water permanence:

- Mostly permanent  
 Mostly intermittent

c) Destination of water from wetland

- Feeds groundwater  
 To downstream catchment  
 To river       To sea

d) Water pH: (absolute value: **7.5**)

- (< 5.5)       (5.5 – 7.4)  
 (> 7.4)       Not known

e) Water salinity

- Fresh (< 0.5 g/l)  
 Brackish (0.5 – 30 g/l)       Euhaline (30- 40 g/l)       Hypersaline  
(>40g/l)       Not known

f) Nutrients in water

- Eutrophic       Mesotrophic       Oligotrophic

Not known

Probable source of Nutrients: surface runoff/ sewage/ industrial effluent

## 2.6 Climatic setting

a) Annual Rainfall /Snowfall(mm)		<b>714</b>		
b) Temperature (oC)	Minimum	<b>8</b>	Maximum	<b>44</b>
c) Humidity (%)	Minimum	<b>10</b>	Maximum	<b>44</b>

2.7 Area of zone of influence (in ha) **250 Ha**

2.8 Major land use within zone of influence (provide as approximate % of catchment area)

Forests	5%;	Grassland/Shrubland	Nil
Agriculture	20%;	Settlements (Rural)	Nil
Settlements (Urban)	Nil;	Industrial	Nil

2.9 Map of wetland and its zone of influence (cadastral scale/1: 10,000 or lower for wetlands < 500 ha and for wetlands ≥ 500 ha, 1: 25,000 or lower)  
**Enclosed as Annexure IV**

### **SECTION 3: BIODIVERSITY**

3.1 List of plant species present in wetland.

**Eichhornia, Macrophytes, Trees of Prosopis, Acacia etc.**

3.2 List of animal species present in wetland

**Common foxes, jackals, wild cats, nilgai, porcupines and various reptiles and snakes including dreaded cobras, shovelers, common coot.**

3.3 Species of conservation significance (rare, endangered, threatened, endemic species)

**Siberian Crane.**

3.4 Major plant invasive alien species and extent of invasion

**NIL**

## 3.5 Major animal invasive alien species and extent of invasion

## Dreaded cobras

## SECTION 4: ECOSYSTEM SERVICES

Importance	Relevant for the site (please tick yes or no)	If Yes, Details (upto 50 words for each category)
Source of drinking water for people living and around	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Source of water for agriculture	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	During the lean season the standing water in the water body can be allowed for agricultural purpose.
Fisheries ?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Different species of fishes are existent in the water bodies.
Cultivation of aquatic food plants	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> No	
Medicinal plants	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Is a recreational site	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Buffering communities from extreme events as floods and storms	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Groundwater recharge	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	By retaining the water in Jheel, the <u>aquifers</u> and <u>groundwater</u> table have been recharged

		<b>and there is more water now for irrigation, enabling farmers 6 kilometres away from the Jheel to grow crops.</b>
Water purification	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Acts as a sink for sediments	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>The water flow in the water body carries with it some % of silt.</b>
Has significant cultural and religious values	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Is a site for recreation and aquatic sport	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Source/cultivation noteworthy food plants species.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Habitat for noteworthy animal species	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Habitat for migratory water birds.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>Demoselle cranes, common cranes and sarus cranes were found in the adjoining area of the lake.</b>
Supports fisheries /aquaculture	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Mining	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Any other, please list		

## SECTION 5: PRE-EXISTING RIGHTS AND PRIVILEGES

Nature of right and privilege	Relevant for the site (please tick yes or no)	Does this negatively impact the wetland's ecological health?	Brief description (upto 50 words for each category)
Community Fishing (without any lease or permission from government department)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not assessed	
Fishing under lease from government department	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not assessed	
Harvest of plants under lease from government department	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not assessed	
Agriculture or horticulture within wetland	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not assessed	
Grazing	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not assessed	
Religious practices	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not assessed	
Withdrawal of water for domestic use	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not assessed	
Withdrawal of water for agriculture or fisheries	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not assessed	The adjoining area where water is required for agriculture is pumped out from the water body.
Bathing or wallowing of domestic animals (buffalo, elephant etc.)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not assessed	
Drinking water for	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	

bovines	<input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> No <input type="checkbox"/> Not assessed	
Plying of boats	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not assessed	
Any other, please list here	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not assessed	

### SECTION 6: PRESENT AND POTENTIAL THREATS

Threat	Degree	Present or Potential	Additional information, if any
Changes in water inflow and outflow	<input checked="" type="checkbox"/> High <input type="checkbox"/> Medium <input type="checkbox"/> Low	<input checked="" type="checkbox"/> Present <input type="checkbox"/> Potential	
Pollution (sewage/solid waste disposal etc.)	<input checked="" type="checkbox"/> High <input type="checkbox"/> Medium <input type="checkbox"/> Low	<input checked="" type="checkbox"/> Present <input type="checkbox"/> Potential	
Unsustainable harvest of biological resources	<input type="checkbox"/> High <input type="checkbox"/> Medium <input checked="" type="checkbox"/> Low	<input checked="" type="checkbox"/> Present <input type="checkbox"/> Potential	
Mining	<input type="checkbox"/> High <input type="checkbox"/> Medium <input checked="" type="checkbox"/> Low	<input type="checkbox"/> Present <input checked="" type="checkbox"/> Potential	
Siltation/Idol immersion Estimated rate of siltation	<input type="checkbox"/> High <input checked="" type="checkbox"/> Medium <input type="checkbox"/> Low	<input checked="" type="checkbox"/> Present <input type="checkbox"/> Potential	
Encroachment	<input type="checkbox"/> High <input type="checkbox"/> Medium <input checked="" type="checkbox"/> Low	<input type="checkbox"/> Present <input checked="" type="checkbox"/> Potential	
Spread of invasive species	<input type="checkbox"/> High <input type="checkbox"/> Medium <input checked="" type="checkbox"/> Low	<input checked="" type="checkbox"/> Present <input type="checkbox"/> Potential	

Any other, please list	<input type="checkbox"/> High	<input type="checkbox"/> Present	
	<input type="checkbox"/> Medium <input type="checkbox"/> Low	<input type="checkbox"/> Potential	

### SECTION 7: NOTIFICATION CATEGORY

- Included in Ramsar List NO
- Included under National Wetland Conservation Programme NO
- Wetland is located in ecologically sensitive and important areas NO
- Wetland is located within a UNESCO World Heritage Site NO
- Wetland is located in religious/cultural site NO
- 7  High altitude wetland or wetland complex with area  $\geq 5$  ha YES
- Below an elevation of 2,500 m above sea level and having area  $\geq 500$  ha NO
- Others

### SECTION 8: ACTIVITIES PROPOSED TO BE PROHIBITED UNDER WETLANDS (CONSERVATION AND MANAGEMENT) RULES, 2010

Activity	Place a tick mark, if relevant	Additional information, if any
Reclamation / filling up		The water body has to be developed in a manner it becomes sustainable for longer period.
Setting up of new industries / expansion of existing industries	✓	

**SECTION 10: LISTING OF AVAILABLE SCIENTIFIC RESOURCES,  
REPORTS PERTAINING TO THE WETLAND .**

**1. REVIVAL AND REJUVENATION STRATEGY OF WATER BODIES IN  
A METROPOLITAN CITY: A CASE STUDY OF NAJAFGARH LAKE,  
DELHI, INDIA.** Paridhi Rustogi\* and Prof. S. K. Singh. Department of  
Environmental Engineering, Delhi Technological University (Formerly Delhi  
College of Engineering), New Delhi 110042, India.



# NATIONAL WETLAND ATLAS: *HARYANA*



Sponsored by  
Ministry of Environment and Forests  
Government of India



Space Applications centre  
Indian Space Research Organisation  
Ahmedabad – 380 015



## 2.0 NATIONAL WETLAND INVENTORY AND ASSESSMENT (NWIA) PROJECT

Realising the importance of many small wetlands that dot the Indian landscape, it has been unanimously felt that inventory of the wetlands at 1:50,000 scale is essential. The task seemed challenging in view of the vast geographic area of our country enriched with diverse wetland classes. Space Applications Centre with its experience in use of RS and GIS in the field of wetland studies, took up this challenging task. This is further strengthened by the fact that guidelines to create geospatial framework, codification scheme, data base structure etc. for natural resources survey has already been well established by the initiative of ISRO under various national level mapping projects. With this strength, the National Wetland Inventory and Assessment (NWIA) project was formulated by SAC, which was approved and funded by MoEF.

The main objectives of the project are:

- To map the wetlands on 1:50000 scale using two date (pre and post monsoon) IRS LISS III digital data following a standard wetland classification system.
- Integration of ancillary theme layers ( road, rail, settlements, drainage, administrative boundaries)
- Creation of a seamless database of the states and country in GIS environment.
- Preparation of State-wise wetland atlases

The project was initiated during 2007. The first task was to have a classification system that can be used by different types of users while amenable to database. An expert/peer group was formed and the peer review was held at SAC on June 2007 where wetland experts and database experts participated and finalized the classification system. It was agreed to follow the classification system that has been used for the earlier project of 1:250,000 scale, with slight modification. Modified National Wetland Classification system for wetland delineation and mapping comprise 19 wetland classes which are organized under a Level III hierarchical system. The definition of each wetland class and its interpretation method was finalized. The technical/procedure manual was prepared as the standard guideline for the project execution across the country (Garg and Patel, 2007). The present atlas is part of the national level data base and deals with the state of Haryana.

### 2.1 Wetland Classification System

In the present project, Modified National Wetland Classification system is used for wetland delineation and mapping comprising 19 wetland classes which are organized under a Level III hierarchical system (Table 1). Level one has two classes: inland and coastal, these are further bifurcated into two categories as: natural and man-made under which the 19 wetland classes are suitably placed. Two date data pertaining to pre-monsoon and post monsoon was used to confirm the classes. Wetlands put to agriculture use in any of the two dates are not included as wetland class. Definitions of wetland categories used in the project is given in Annexure-I.

#### 2.2.1 Spatial Framework and GIS Database

The National Spatial Framework) (NSF) has been used as the spatial framework to create the database (Anon. 2007). The database design and creation standard suggested by NRDB/NNRMS guidelines is followed. Feature codification scheme for every input element has been worked out keeping in view the nationwide administrative as well as natural hierarchy (State-district- within the feature class for each of the theme. All data elements are given a unique name, which are self explanatory with short forms.

Following wetland layers are generated for each inland wetland:

- **Wetland extent:** As wetlands encompass open water, aquatic vegetation (submerged, floating and emergent), the wetland boundary should ideally include all these. Satellite image gives a clear signature of the wetland extends from the imprint of water spread over the years.
- **Water spread:** There are two layers representing post-monsoon and pre-monsoon water spread during the year of data acquisition.

ANNEXURE A-3



Google Imagery of 24 November, 2022 showing Najafgarh Jheel spread at 700 ha



Google Imagery of 24 November, 2022 showing Najafgarh Jheel spread at 700 ha