Ramsar Information Sheet

Published on 3 August 2022

India

Sirpur Wetland

Designation date	7 January 2022
Site number	2478
Coordinates	22°41'58"N 75°48'44"E
Area	161,00 ha

Color codes

Fields back-shaded in light blue relate to data and information required only for RIS updates.

Note that some fields concerning aspects of Part 3, the Ecological Character Description of the RIS (tinted in purple), are not expected to be completed as part of a standard RIS, but are included for completeness so as to provide the requested consistency between the RIS and the format of a 'full' Ecological Character Description, as adopted in Resolution X.15 (2008). If a Contracting Party does have information available that is relevant to these fields (for example from a national format Ecological Character Description) it may, if it wishes to, include information in these additional fields.

1 - Summary

Summary

The Sirpur wetland is situated in Indore, Madhya Pradesh. The Sirpur wetland is an important historical lake commonly named Pakshi Vihar (bird sanctuary). This wetland is located in ward no. 1 which is on the outskirts of the city. The wetland has an area of 161 ha. and the catchment area is about 1000 ha. It has a mixed watershed mostly rural, with some parts falling in the urban areas and also on the northern, southern, and western sides. The Wetland comes under the jurisdiction of Indore City Municipal Corporation and they are the custodians of the wetland.
The wetland is a man-made wetland but over the centuries it has acquired all the natural characteristics. It is not only important for its aesthetic value but it provides immense ecological services such as being an important source of water and helping groundwater recharge in the downstream areas. Sirpur wetland is also culturally important to the local communities of the city. The wetland supports a wide variety of flora and fauna. It is an important nesting place for terrestrial and aquatic migratory & residential birds. The diverse flora & fauna provides ideal habitat in the form of food and shelter for a large number of migratory birds during the winter season. Presently, the wetland is being developed as a bird sanctuary and ecological learning center.

2 - Data & location

2.1 - Formal data

2.1.1 - Name and address of the compiler of this RIS

Responsible compiler

Institution/agency: MP State Wetlands Authority & Environmental Planning and Coordination Organization (EPCO)

Postal address:
Madhya Pradesh State Wetlands Authority & Environmental Planning and Coordination Organization (EPCO),
Department of Environment, Government of Madhya Pradesh
Paryavaran Parisar, E- 5, Arera Colony,
Bhopal 462016, Madhya Pradesh,
India

National Ramsar Administrative Authority

Institution/agency: Ministry of Environment, Forest & Climate Change

Postal address:
Office of the Additional Secretary, Ministry of Environment, Forest and Climate Change, Government of India, Indira Paryavaran Bhavan, Jorbagh Road, New Delhi - 110 003
INDIA

2.1.2 - Period of collection of data and information used to compile the RIS

From year: 2015

To year: 2020

2.1.3 - Name of the Ramsar Site

Official name (in English, French or Spanish): Sirpur Wetland

Unofficial name (optional): Sirpur Wetland

2.2 - Site location

2.2.1 - Defining the Site boundaries

b) Digital map/image
<1 file(s) uploaded>

Former maps: 0

Boundaries description:
The wetland boundary corresponds to the peak inundation achieved post-monsoon. The following defines the boundary:
East: Chandan Nagar Colony
North: Noorani Nagar Colony
South: Dwarakapuri
West: Agricultural fields

2.2.2 - General location

a) In which large administrative region does the site lie? The wetland is situated in Indore District in the state of Madhya Pradesh

b) What is the nearest town or population centre? Indore City

2.2.3 - For wetlands on national boundaries only

a) Does the wetland extend onto the territory of one or more other countries? Yes ○ No ◉

b) Is the site adjacent to another designated Ramsar Site on the territory of another Contracting Party? Yes ○ No ◉

2.2.4 - Area of the Site

Official area, in hectares (ha): 161

Area, in hectares (ha) as calculated from GIS boundaries: 165.075

2.2.5 - Biogeography

Biogeographic regions

Regionalisation scheme(s)	Biogeographic region
Freshwater Ecoregions of the World (FEOW)	Ganges Delta & Plain

3 - Why is the Site important?

3.1 - Ramsar Criteria and their justification

<no data available>

☑ Criterion 2 : Rare species and threatened ecological communities

☑ Criterion 3 : Biological diversity

Justification

Sirpur wetland supports a wide variety of flora and fauna. Diverse flora provides ideal habitat in the form of food and shelter for numerous avifauna. Due to biotic interaction and the natural selection process, a characteristic relationship between vegetation and the avifauna has been developed. All these characteristics qualify Sirpur wetland as a unique wetland of Western Madhya Pradesh.
The Sirpur wetland is quite rich in biodiversity, the principal components being macrophytes, butterflies, fish, and avifauna (both resident and migratory). The biodiversity details of Sirpur Wetland are as follows:

1. Macrophytes: 06 species
2. Benthose: 21 species (Mollusca 11 +Orthopodes 3 + Oligochaete 7)
3. Fish fauna: 30 species (natural and cultured species)
4. Avifauna: 130 Species (including water/terrestrial/migratory/ local migratory/local residents etc.)
5. Terrestrial Plants: 175 species (herb/shrub/grass/climber/Tree)
6. Butterflies – 34 species
7. Reptiles and Amphibians: > 8 species including 1 species of turtle

☑ Criterion 4 : Support during critical life cycle stage or in adverse conditions

Optional text box to provide further information

Sirpur Wetland has a diverse habitat with a number of inlets and surrounding plantations, providing good nesting and foraging habitats for birds. This diversity of habitats enables the wetland to act as an important breeding site for species like Tadorna ferruginea, Sterna aurantiam, Numenius arquata, Neophron percnopterus, Circus aeruginosus, Ciconia episcopus, Aythya nyroca, Aythya farina, Anser indicus, Anser anser, Anhinga melanogaster, Anas strepera, Anas querquedula, Anas Penelope, Anas clypeata, and Anas acuta. Thus, the site provides support to the species listed above during critical stages of their life cycles.

☑ Criterion 7 : Significant and representative fish

Justification

Four species of fishes are known to use this site for feeding and breeding. These species include Cyprinus carpio, Labeo rohita, Radix Auricularia, and Wallago attu. These species are exclusively endemic to this region.

3.2 - Plant species whose presence relates to the international importance of the site

<no data available>

3.3 - Animal species whose presence relates to the international importance of the site

Phylum	Scientific name	Species qualifies under criterion				Species contributes under criterion				Pop. Size	Period of pop. Est.	% occurrence 1)	IUCN Red List	CITES Appendix I	CMS Appendix I	Other Status	Justification
		2	4	6	9	3	5	7	8								
Fish, Mollusc and Crustacea																	
CHORDATA / ACTINOPTERYGII	*Cyprinus carpio*	☑	☐	☐	☐	☑	☐	☑	☐				VU	☐	☐		Vulnerable species. Indo-riverine wetland species that is also used in polyculture. Species is widely distributed in tropical freshwater in Indian Subcontinent.
CHORDATA / ACTINOPTERYGII	*Labeo rohita*	☐	☐	☐	☐	☐	☐	☑	☐				LC	☐	☐		Uses the site for feeding, breeding and migration purposes.
MOLLUSCA / GASTROPODA	*Radix auricularia*	☐	☐	☐	☐	☐	☐	☑	☐				LC	☐	☐		Uses the site for feeding, breeding and migration purposes.
CHORDATA / ACTINOPTERYGII	*Wallago attu*	☑	☐	☐	☐	☑	☐	☑	☐				VU	☐	☐		Vulnerable species. Indo-riverine wetland species that is also used in polyculture. Species is widely distributed in tropical freshwater in Indian Subcontinent. Uses the site for feeding, breeding and migration purposes.
Birds																	
CHORDATA / AVES	*Anas acuta*	☐	☑	☐	☐	☐	☐	☐	☐				LC	☐	☐		Utilizes the nesting and foraging habitats available in the site.
CHORDATA / AVES	*Anas clypeata*	☐	☑	☐	☐	☐	☐	☐	☐					☐	☐		Utilizes the nesting and foraging habitats available in the site.
CHORDATA / AVES	*Anas penelope*	☐	☑	☐	☐	☐	☐	☐	☐					☐	☐		Utilizes the nesting and foraging habitats available in the site.
CHORDATA / AVES	*Anas querquedula*	☐	☑	☐	☐	☐	☐	☐	☐					☐	☐		Utilizes the nesting and foraging habitats available in the site.
CHORDATA / AVES	*Anas strepera*	☐	☑	☐	☐	☐	☐	☐	☐					☐	☐		Utilizes the nesting and foraging habitats available in the site.
CHORDATA / AVES	*Anhinga melanogaster*	☐	☑	☐	☐	☐	☐	☐	☐				NT	☐	☐		Utilizes the nesting and foraging habitats available in the site.
CHORDATA / AVES	*Anser anser*	☐	☑	☐	☐	☐	☐	☐	☐				LC	☐	☐		Utilizes the nesting and foraging habitats available in the site.
CHORDATA / AVES	*Anser indicus*	☐	☑	☐	☐	☐	☐	☐	☐				LC	☐	☐		Utilizes the nesting and foraging habitats available in the site.
CHORDATA / AVES	*Aythya ferina*	☑	☑	☐	☐	☑	☐	☐	☐				VU	☐	☐		The species contributes to the overall biodiversity of the biogeographic realm. In addition, the wetland supports important life stages of this bird as the wetland is a wintering site. Vulnerbale species.
CHORDATA / AVES	*Aythya nyroca*	☐	☑	☐	☐	☐	☐	☐	☐				NT	☐	☑		Utilizes the nesting and foraging habitats available in the site.
CHORDATA / AVES	*Ciconia episcopus*	☐	☑	☐	☐	☐	☐	☐	☐				NT	☐	☐		Utilizes the nesting and foraging habitats available in the site.
CHORDATA / AVES	*Circus aeruginosus*	☐	☑	☐	☐	☐	☐	☐	☐				LC	☐	☐		Utilizes the nesting and foraging habitats available in the site.
CHORDATA / AVES	*Neophron percnopterus*	☑	☑	☐	☐	☑	☐	☐	☐				EN	☐	☑		The species contributes to the overall biodiversity of the biogeographic realm. In addition, the wetland supports important life stages of this bird as the wetland is a wintering site. Endangered species.
CHORDATA / AVES	*Numenius arquata*	☐	☑	☐	☐	☐	☐	☐	☐				NT	☐	☐		Utilizes the nesting and foraging habitats available in the site.
CHORDATA / AVES	*Sterna aurantia*	☑	☑	☐	☐	☑	☐	☐	☐				VU	☐	☐		The species contributes to the overall biodiversity of the biogeographic realm. In addition, the wetland supports important life stages of this bird as the wetland is a wintering site. Vulnerable species.
CHORDATA / AVES	*Tadorna ferruginea*	☐	☑	☐	☐	☐	☐	☐	☐				LC	☐	☐		Utilizes the nesting and foraging habitats available in the site.

1) Percentage of the total biogeographic population at the site

3.4 - Ecological communities whose presence relates to the international importance of the site

<no data available>

4 - What is the Site like? (Ecological character description)

4.1 - Ecological character

Sirpur wetland is a unique man-made wetland constructed by Holkers, the ex-rulers of Indore kingdom. Over the years it has stabilized and acquired all the near-natural characteristics in the last two centuries, Sirpur is one of the largest wetlands of Indore City. The site and its surroundings have a mosaic of landforms including open water, marshes, plantations, agricultural lands, and interspersed settlements. The wetland gets inundated during the monsoon to a maximum depth of 2 m. The northern part maintains open water and marsh areas almost round the year, whereas in the southern site, dried out. Sirpur Wetland is a shallow, alkaline, nutrient-rich freshwater wetland. Hydrological and ecological connectivity is support high biological diversity and habitat heterogeneity found in Wetland. The site has well-defined areas that are ecologically unique and fragile ecosystems. The area has a typical humid subtropical climate having three distinct seasons: winter (October to March), summer (April to June), monsoon (July to September). The temperature variation is 3 to 40 degrees Celsius. The site lies in the lower river sub-basin of river Chambal which falls in the major Ganges basin. The terrain is essentially flat, but has gentle undulations. It has predominantly black cotton soil having very fine grain. Its species richness in terms of flora and fauna and presence of rare and threatened species along with species of evolutionary significance makes it unique and calls for effective measures to maintain its biodiversity value. The wetland supports 175 species of terrestrial flora, 06 species of macrophytes, 30 species of fishes(natural and cultured species), 8 species of reptiles, and amphibians. The wetland is an important site for congregation of water birds, supporting 130 species of avifauna, including resident and migrant species. Sirpur Wetland provides valuable ecosystem services like fisheries, cultivation of medicinal plants, buffering communities from extreme events as floods and storms, and regulating micro-climate. The local communities also accrue benefits through spiritual enrichment, recreation, education, and cultural religious values.

4.2 - What wetland type(s) are in the site?

Human-made wetlands

Wetland types (code and name)	Local name	Ranking of extent (1: greatest - 4: least)	Area (ha) of wetland type
6: Water storage areas/Reservoirs	Sirpur Wetland	1	161

4.3 - Biological components

4.3.1 - Plant species

Other noteworthy plant species

Phylum	Scientific name	Position in range / endemism / other
TRACHEOPHYTA/LILIOPSIDA	*Lemna minor*	Source of food for fish and waterfowl
TRACHEOPHYTA/MAGNOLIOPSIDA	*Nymphaea nouchali*	Act as food source and provides shelter to aquatic species

Invasive alien plant species

Phylum	Scientific name	Impacts
TRACHEOPHYTA/LILIOPSIDA	*Eichhornia crassipes*	Actual (major impacts)

4.3.2 - Animal species

<no data available>

4.4 - Physical components

4.4.1 - Climate

Climatic region	Subregion
A: Tropical humid climate	Aw: Tropical savanna (Winter dry season)

The climate of area is characterized by hot summer and well distributed rainfall during the southwest monsoon season. Monsoon arrives generally in the middle of June and the weather becomes pleasant. January is generally the coolest month. Sometimes in December, the minimum temperature drops down to even as low as about 2 to 3 C←. Normal annual rainfall of the district is about 1000 mm. The district receives maximum rainfall during the south west monsoon period. Thus about 91.2 % of the total annual rainfall takes place during the south west monsoon period (June to September) alone. The maximum monthly rainfall takes place during the month of July. During the monsoon, relative humidity is usually about 98%. Rest of the year the air is generally dry and the relative humidity is less than 24%.

4.4.2 - Geomorphic setting

a) Minimum elevation above sea level (in metres) 556

a) Maximum elevation above sea level (in metres): 556

- Entire river basin ☐
- Upper part of river basin ☐
- Middle part of river basin ☑
- Lower part of river basin ☐
- More than one river basin ☐
- Not in river basin ☐
- Coastal ☐

Please name the river basin or basins. If the site lies in a sub-basin, please also name the larger river basin. For a coastal/marine site, please name the sea or ocean.

Sirpur Wetland lie in sub basin Chambal of Yamuna basin

4.4.3 - Soil

- Mineral ☑
- Organic ☑
- No available information ☐

Are soil types subject to change as a result of changing hydrological conditions (e.g., increased salinity or acidification)? Yes ○ No ◉

Please provide further information on the soil (optional)

The district is covered by medium black soils. These soils are 0.46 to 0.9 meters thick and are rich in lime and lime nodules. The sub-soil and the partially disintegrated rock below allow easy drainage and hence these medium black soils can be freely irrigated.

4.4.4 - Water regime

Water permanence

Presence?	
Usually permanent water present	No change

Source of water that maintains character of the site

Presence?	Predominant water source	
Water inputs from precipitation	☑	No change
Water inputs from surface water	☑	No change
Water inputs from groundwater	☑	No change

Water destination

Presence?	
Feeds groundwater	No change

Stability of water regime

Presence?	
Water levels fluctuating (including tidal)	No change

Please add any comments on the water regime and its determinants (if relevant). Use this box to explain sites with complex hydrology:

The Sirpur lake at its full reservoir level stores up to 7.06 MCM of water. The maximum depth of lake is 4.60 m.

(ECD) Stratification and mixing regime: It is a shallow wetland ecosystem.

4.4.5 - Sediment regime

- Significant erosion of sediments occurs on the site ☐
- Significant accretion or deposition of sediments occurs on the site ☑
- Significant transportation of sediments occurs on or through the site ☑
- Sediment regime is highly variable, either seasonally or inter-annually ☐
- Sediment regime unknown ☐

(ECD) Water turbidity and colour: Assessment in 2019-20 indicated Wetland turbidity to ranged between 13.7 to 77.8 NTU

(ECD) Water temperature: Water temperature ranges between 10 °C in winters to 42° C Summers

4.4.6 - Water pH

- Acid (pH<5.5) ☐
- Circumneutral (pH: 5.5-7.4) ☐
- Alkaline (pH>7.4) ☐
- Unknown ☑

4.4.7 - Water salinity

- Fresh (<0.5 g/l) ☑
- Mixohaline (brackish)/Mixosaline (0.5-30 g/l) ☐
- Euhaline/Eusaline (30-40 g/l) ☐
- Hyperhaline/Hypersaline (>40 g/l) ☐
- Unknown ☐

4.4.8 - Dissolved or suspended nutrients in water

- Eutrophic ☑
- Mesotrophic ☐
- Oligotrophic ☐
- Dystrophic ☐
- Unknown ☐

(ECD) Water conductivity	Assessments in 2019-20 indicated Sirpur lake water conductivity to ranged between 446 to 1586 µmhos/cm

4.4.9 - Features of the surrounding area which may affect the Site

Please describe whether, and if so how, the landscape and ecological characteristics in the area surrounding the Ramsar Site differ from the site itself: i) broadly similar ○ ii) significantly different ◉

- Surrounding area has greater urbanisation or development ☐
- Surrounding area has higher human population density ☑
- Surrounding area has more intensive agricultural use ☐
- Surrounding area has significantly different land cover or habitat types ☐

Please describe other ways in which the surrounding area is different:

The 82% of the catchment of lake is either agricultural, land with scrub or without scrub and barren rocky/stray. Buffer zone plantation (in approximately 1000 ha area) along northern, southern and western fringe of lake has been done.

4.5 - Ecosystem services

4.5.1 - Ecosystem services/benefits

Provisioning Services

Ecosystem service	Examples	Importance/Extent/Significance
Food for humans	Sustenance for humans (e.g., fish, molluscs, grains)	Medium
Genetic materials	Medicinal products	Medium

Regulating Services

Ecosystem service	Examples	Importance/Extent/Significance
Maintenance of hydrological regimes	Groundwater recharge and discharge	High
Erosion protection	Soil, sediment and nutrient retention	High
Pollution control and detoxification	Water purification/waste treatment or dilution	Low
Climate regulation	Local climate regulation/buffering of change	High
Biological control of pests and disease	Support of predators of agricultural pests (e.g., birds feeding on locusts)	Medium
Hazard reduction	Flood control, flood storage	High

Cultural Services

Ecosystem service	Examples	Importance/Extent/Significance
Recreation and tourism	Picnics, outings, touring	High
Spiritual and inspirational	Spiritual and religious values	Medium
Spiritual and inspirational	Cultural heritage (historical and archaeological)	Medium
Spiritual and inspirational	Aesthetic and sense of place values	Medium
Scientific and educational	Educational activities and opportunities	High
Scientific and educational	Important knowledge systems, importance for research (scientific reference area or site)	High
Scientific and educational	Long-term monitoring site	High
Scientific and educational	Major scientific study site	High

Supporting Services

Ecosystem service	Examples	Importance/Extent/Significance
Biodiversity	Supports a variety of all life forms including plants, animals and microorganizms, the genes they contain, and the ecosystems of which they form a part	High
Soil formation	Sediment retention	Medium
Soil formation	Accumulation of organic matter	Medium
Nutrient cycling	Storage, recycling, processing and acquisition of nutrients	Medium
Nutrient cycling	Carbon storage/sequestration	Medium

Within the site: 5,000

Outside the site: 1, 00,000

Have studies or assessments been made of the economic valuation of ecosystem services provided by this Ramsar Site? Yes ○ No ○ Unknown ◉

4.5.2 - Social and cultural values

i) the site provides a model of wetland wise use, demonstrating the application of traditional knowledge and methods of management and use that maintain the ecological character of the wetland ☐

ii) the site has exceptional cultural traditions or records of former civilizations that have influenced the ecological character of the wetland ☑

Description if applicable

Sirpur Wetland was created by the Holkars of Indore State. Sirpur wetland is well defined areas that are unique, ecologically ecosystems having rich biodiversity of domestic species, presence of rare and threatened species, keystone species are play significant role to maintenance of cultural diversity.

iii) the ecological character of the wetland depends on its interaction with local communities or indigenous peoples ☑

Description if applicable

The ecological character of Sirpur Wetland is by inundation regime and linked in fisheries based with some livelihood systems. The harvest of macrophytes helps keep the overall invasiveness in check and it is an important part of the nutrient and carbon cycles within the wetland system. Excessive dependence of groundwater for agriculture and aquaculture has implications for water and sediment regimes.

iv) relevant non-material values such as sacred sites are present and their existence is strongly linked with the maintenance of the ecological character of the wetland ☑

Description if applicable

The historic temple and Mazar near the periphery of Sirpur Wetland are important religious spot for the local communities. The temple and mazar attracts pilgrims/ deity in the festival season and local people living in and around the wetland they are regular or frequent visited in these sites.

4.6 - Ecological processes

<no data available>

5 - How is the Site managed? (Conservation and management)

5.1 - Land tenure and responsibilities (Managers)

5.1.1 - Land tenure/ownership

Public ownership

Category	Within the Ramsar Site	In the surrounding area
Local authority, municipality, (sub)district, etc.	☑	☑
Public land (unspecified)	☑	☑

Private ownership

Category	Within the Ramsar Site	In the surrounding area
Other types of private/individual owner(s)	☐	☑

Provide further information on the land tenure / ownership regime (optional):

(a) Site: Govt. land under the control of Indore Municipal Corporation (Urban Administration & Development Deptt., (Govt.of M.P.)

(b) Surrounding area: About 85% of the fringe of lake is Govt. land and the rest is private land.

5.1.2 - Management authority

Please list the local office / offices of any agency or organization responsible for managing the site:

1. Site Management: Indore Municipal Corporation, Madhya Pradesh
2. MP State Wetland Authority-Nodal Department: Environment, Deptt. GoMP, Secretariat: EPCO, Bhopal

Provide the name and/or title of the person or people with responsibility for the wetland:

Commissioner, Municipal Corporation, Indore, 2. Member Secretary, MPSWA, EPCO

Postal address:

Office of Commissioner, Narayan Sing Saput Marg, Shivaji Market, Nagar Nigam Square, Indore, Madhya Pradesh 452007
Email: nn.indore@mpurban.gov.in

Office of Member Secretary, MPSWA & Executive Director,EPCO Environmental Planning and Coordination Organisation (EPCO)
Paryavaran Parisar, E- 5, Arera Colony,
Bhopal 462016 Madhya Pradesh, India

E-mail address: nn.indore@mpurban.gov.in

5.2 - Ecological character threats and responses (Management)

5.2.1 - Factors (actual or likely) adversely affecting the Site's ecological character

Human settlements (non agricultural)

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Housing and urban areas	Medium impact		☐	☑

Water regulation

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Drainage	Low impact		☐	☑
Water abstraction	Medium impact		☑	☑

Agriculture and aquaculture

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Marine and freshwater aquaculture	Low impact		☑	☐

Invasive and other problematic species and genes

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Invasive non-native/ alien species	Medium impact		☑	☐

Climate change and severe weather

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Temperature extremes	Low impact		☑	☑

5.2.2 - Legal conservation status

Regional (international) legal designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
Other international designation	Sirpur Lake	http://datazone.birdlife.org/site/factsheet/sirpur-lake-iba-indi a	whole

5.2.3 - IUCN protected areas categories (2008)

Ia Strict Nature Reserve ☐

Ib Wilderness Area: protected area managed mainly for wilderness protection ☐

II National Park: protected area managed mainly for ecosystem protection and recreation ☐

III Natural Monument: protected area managed mainly for conservation of specific natural features ☐

IV Habitat/Species Management Area: protected area managed mainly for conservation through management intervention ☐

V Protected Landscape/Seascape: protected area managed mainly for landscape/seascape conservation and recreation ☑

VI Managed Resource Protected Area: protected area managed mainly for the sustainable use of natural ecosystems ☐

5.2.4 - Key conservation measures

Legal protection

Measures	Status
Legal protection	Partially implemented

Habitat

Measures	Status
Habitat manipulation/enhancement	Proposed
Improvement of water quality	Implemented
Re-vegetation	Implemented
Catchment management initiatives/controls	Implemented
Hydrology management/restoration	Proposed
Soil management	Proposed
Land conversion controls	Proposed

Species

Measures	Status
Control of invasive alien plants	Partially implemented

Human Activities

Measures	Status
Regulation/management of wastes	Implemented
Regulation/management of recreational activities	Implemented
Communication, education, and participation and awareness activities	Partially implemented
Fisheries management/regulation	Implemented
Management of water abstraction/takes	Proposed
Harvest controls/poaching enforcement	Proposed
Research	Proposed

5.2.5 - Management planning

Is there a site-specific management plan for the site? No

Has a management effectiveness assessment been undertaken for the site? Yes ○ No ◉

If the site is a formal transboundary site as indicated in section Data and location > Site location, are there shared management planning processes with another Contracting Party?	Yes ○ No ◉

5.2.6 - Planning for restoration

Is there a site-specific restoration plan?	No need identified

5.2.7 - Monitoring implemented or proposed

<no data available>

6 - Additional material

6.1 - Additional reports and documents

6.1.1 - Bibliographical references

1 List of Plants (Planted trees): Municipal Corporation Indore (2019)
2. List of Macrophytes: Lake Atlas of Indore District (2018) Prepared and published by Environmental Planning and Coordination Organization (EPCO)
3. Water Quality Monitoring Report:M.P. Pollution Control Board Indore, MP.
4. List of Birds: Bhalu Mondhe, Abhilash Khandekar, Kaustubh Rishi (2012) Birds of Sirpur Indore.
5. List benthos: Gandhi,T. K and SharmaS. K.(2012).Biodiversity of littoral benthic community and shorebirds of Sirpur Lake, Indore. International Journal of Environmental Rehabilitation and Conservation. Vol. II.
6. Central Ground Water Information Booklet, Indore District by CGWB North Central Region, 2013.

6.1.2 - Additional reports and documents

i. taxonomic lists of plant and animal species occurring in the site (see section 4.3)
<1 file(s) uploaded>

ii. a detailed Ecological Character Description (ECD) (in a national format)
<1 file(s) uploaded>

iii. a description of the site in a national or regional wetland inventory
<no file available>

iv. relevant Article 3.2 reports
<no file available>

v. site management plan
<no file available>

vi. other published literature
<4 file(s) uploaded>

6.1.3 - Photograph(s) of the Site

Please provide at least one photograph of the site:

Migration Season (*Municipal Corporation, Indore, 15-10-2020*)

Fishing Activities (*Municipal Corporation, Indore, 10-07-2020*)

Resting site of Heronry birds (*Municipal Corporation, Indore, 20-02-2020*)

6.1.4 - Designation letter and related data

Designation letter
<1 file(s) uploaded>

Date of Designation: 2022-01-07