



ANNUAL

REPORT

2019-2020



East Kolkata Wetlands Management Authority

**Department of Environment
Government of West Bengal**



State Wetlands Authority
West Bengal



EAST KOLKATA WETLANDS

Wetland of International Importance

Location : Kolkata, West Bengal
Depth (m) : 3m Max. and average depth of 1m

Area : 12,500 Ha
Source of water : Sewage water

Wetland values and benefits

Threats



Eco-tourism and Recreation



Naturally treats sewage and wastewater at no cost



Fulfils day to day requirement of fish, vegetable and foodgrains



Social and cultural value

> Runs more than 100 educational institutes

> Centre for traditional and scientific knowledge of resource recovery practices



Maintains microclimate conditions of the region



Biodiversity Values

Habitat for a wide variety of flora and fauna

113

Species of avifauna

19

Species of snake



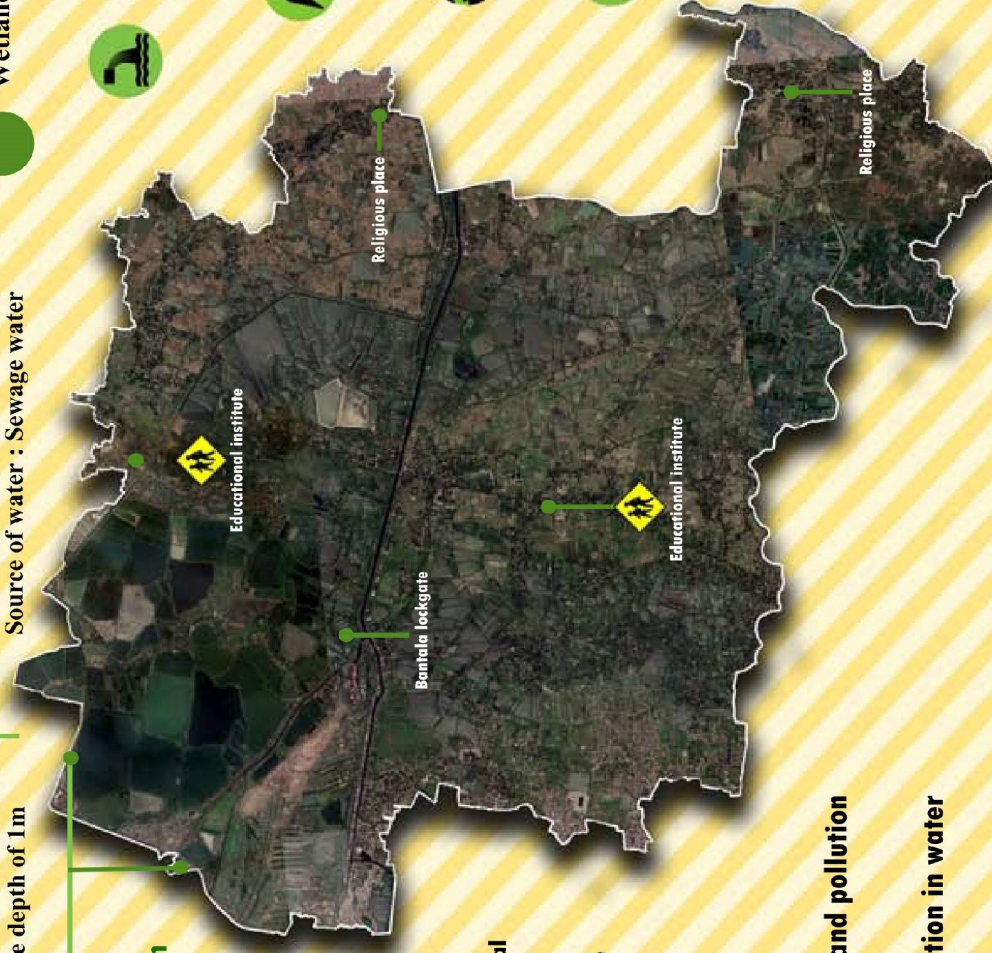
Encroachment



Garbage dumping and pollution



Siltation and reduction in water holding capacity



Educational Institute

Bentala lockgate

Religious place

Educational Institute

Religious place



Wildlife and Avifauna

Marsh Mongoose, Painted Keelback, Monocellate Cobra, Flapshell Turtle, Water Monitor Lizard, Reed Frog, Gadwall, Indian Arcter, Baillon's Crane, Watercock, Pied Avocet, Striated Grassbird.

Legal disclaimer:

This geographical map is for informational purposes only and does not constitute recognition of international boundaries or regions; EKWMA makes no claims concerning the validity, accuracy or completeness of the maps nor assumes any liability resulting from the use of the information therein.



EAST KOLKATA WETLANDS MANAGEMENT AUTHORITY

Annual Report 2019-20

Department of Environment Government of West Bengal



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Inside Back Cover: Some photographs of restoration work within the East Kolkata Wetlands

Back Cover: Some photographs of celebration of the World Wetlands Day



1

East Kolkata Wetlands

East Kolkata Wetlands (EKW), situated between 22°25' to 22°35' N and 88°20' to 88°35' E, are a unique peri-urban ecosystem. They are mosaic of water bodies, agricultural land and settlement areas spread over an area of 12,500 ha. More than 250 sewage fed water bodies of varying sizes, ranging from less than 0.5 ha to over 100 ha, are found in the EKW.

The wetlands are critical natural infrastructure for the Kolkata city. They treat over 910 million litres per day (MLD) of sewage generated by Kolkata Municipal Corporation (KMC), saving the city in terms of avoided sewage treatment cost, as well as providing a much needed flood buffer on the peri-urban interface. As the nutrient-rich sewage moves through the sewage canals, fish ponds (bheries) and agricultural fields, it is progressively cleaned (bioremediation). The sewage is first redirected (instead of draining to the river) to the fish ponds in a controlled manner for the growth of planktons which are feed for fishes. Later after sedimentation and pisciculture, it is drained to the agriculture and horticulture fields. Through the ingenuity of local communities and their traditional knowledge, the waste recovery practice provides subsistence opportunities for a large population residing within the EKW.

The wetlands have been declared as a Wetland of International Importance under Criteria I of the Ramsar Convention in 2002 as a unique example of near-natural wetland type within the Gangetic Delta bio-geographic zone.

The wetlands are governed under the provisions of the East Kolkata Wetlands (Conservation and Management) Act, 2006, promulgated by the State Government and the Wetland (Conservation and Management) Rules, 2017, promulgated by the Central Government.

East Kolkata Wetlands Management Authority

East Kolkata Wetlands Management Authority (EKWMA), a regulatory body, was constituted under Section 3(1) of the East Kolkata Wetlands (Conservation and Management) Act, 2006. By an amendment in March, 2017 through the East Kolkata Wetlands (Conservation and Management) (Amendment) Act, 2017, the composition of the EKWMA was changed.

2.1 Composition of the EKWMA

The EKWMA is a thirteen member body headed by the Hon'ble Minister-in-Charge, Department of Environment, Government of West Bengal with four expert members from the areas of wetland ecology, hydrology, fisheries, and socio-economics. Commissioner, Kolkata Municipal Corporation, District Magistrate, South 24 Parganas, and District Magistrate, North 24 Parganas are permanent Invitee Members of EKWMA.

2.2 Chairperson and Member Secretary during 2019-20

Chairperson, EKWMA	
Minister-in-Charge, Department of Environment, Govt. of West Bengal.	<ul style="list-style-type: none"> Shri Suvendu Adhikari (01.04.2019 – 29.05.2019) Prof. (Dr.) Saumen Kumar Mahapatra (29.05.2019 – till date)
Member Secretary, EKWMA	
From 01,04,2019 to 31.03.2020	
Additional Chief Secretary/Principal Secretary, Department of Environment, Govt. of West Bengal.	<ul style="list-style-type: none"> Shri Indavar Pandey, IAS (01.04.2019 - 12.06.2019) Shri B. P. Gopalika Roy, IAS (12.06.2019 - 03.07.2019) Shri Prabhat Kumar Mishra, IAS (03.07.2019 - 31.03.2020)

2.3 Meeting of the EKWMA

During the period of the report, the EKWMA held one meeting, which was chaired by Shri Prof. (Dr.) Saumen Kumar Mahapatra, Hon'ble Minister-in-Charge, Environment Department and attended, among others, by the Chief Secretary, Government of West Bengal. The minutes of the meeting are given at **Annexure I**.

State Wetlands Authority

Ministry of Environment, Forest and Climate Change (MoEF&CC), Government of India has notified the Wetlands (Conservation and Management) Rules, 2017 in exercise of the powers conferred by the Environment (Protection) Act, 1986 vide their notification no. GSR 1203(E) dated 26.09.2017. These Rules are applicable to the EKW as they are 'wetlands of international importance' under the Ramsar Convention. Immediately after the notification, the State Wetlands Authority for West Bengal was constituted under Rule 5(1) of said Rules, 2017.

3.1 Composition of the State Wetlands Authority (SWA)

The SWA is headed by the Hon'ble Minister-in-Charge, Department of Environment, Government of West Bengal with Chief Secretary as Vice-Chairman and twenty other members including four experts from the areas of wetland ecology, hydrology, fisheries, and socio-economics.

3.2 Chairperson, Vice-Chairperson and Member Secretary during 2019-20

Chairperson, SWA	
Minister-in-Charge, Department of Environment, Govt. of West Bengal.	<ul style="list-style-type: none"> • Shri Suvendu Adhikari (01.04.2019 – 29.05.2019) • Prof. (Dr.) Saumen Kumar Mahapatra (29.05.2019 – till date)
Vice-Chairperson, SWA	
Chief Secretary to the Government of West Bengal.	<ul style="list-style-type: none"> • Shri Malay Kumar De, IAS (01.04.2019 – 30.09.2019) • Shri Rajiva Sinha, IAS (30.09.2019 – 31.03.2020)
Member Secretary, SWA	
Additional Chief Secretary/Principal Secretary, Department of Environment, Govt. of West Bengal	<ul style="list-style-type: none"> • Shri Indavar Pandey, IAS (01.04.2019 - 12.06.2019) • Shri B. P. Gopalika Roy, IAS (12.06.2019 - 03.07.2019) • Shri Prabhat Kumar Mishra, IAS (03.07.2019 - 31.03.2020)



3.3 Meeting of the SWA

During the period of the report, the SWA held one meeting, which was chaired by Shri Prof. (Dr.) Saumen Kumar Mahapatra, Hon'ble Minister-in-Charge, Environment Department. The minutes of the meeting are given at **Annexure II**.

3.4 Formation of Technical Committee

A Technical Committee was constituted in accordance with the Rule 5(6)(a) of the Wetlands (Conservation and Management) Rules, 2017. Notification of the Technical Committee vide no. 076-SWA/EN/10/2019-20 dated 20.02.2020 is given in **Annexure III**.

3.5 Formation of Grievance Committee

A Grievance Committee was constituted in accordance with the Rule 5(6)(b) of the Wetlands (Conservation and Management) Rules, 2017. Notification of the Grievance Committee vide no. 1415/EN/1C-07/2014 dated 17.07.2019 is given in **Annexure IV**.

Major Achievements during 2019-20

4.1 Assessment of quality of wastewater at different points of canals and water bodies in East Kolkata Wetlands

The study was conducted through West Bengal Pollution Control Board for the period of one year. Samples were collected every month from five fixed locations of East Kolkata Wetlands. Sampling location were:

- Inlet point Harhare bheri, near Bantala lock gate, from Fishery Feed Canal.
- Gusighata lockgate water of SWF and DWF.
- Water of Kestopur canal near lockgate at Ghaskhali Kulti anchal.
- Outlet Point at Bamanghata Jalapath near new bridge.
- Outlet point at Uttar Hatgachha near Sardar Para.

The analysis reports may be interpreted on the basis of National Water Quality Criteria for classifying surface water on the basis of use-specific criteria.

Consolidated twelve analysis reports of samples of wastewater are given at **Annexure V**.

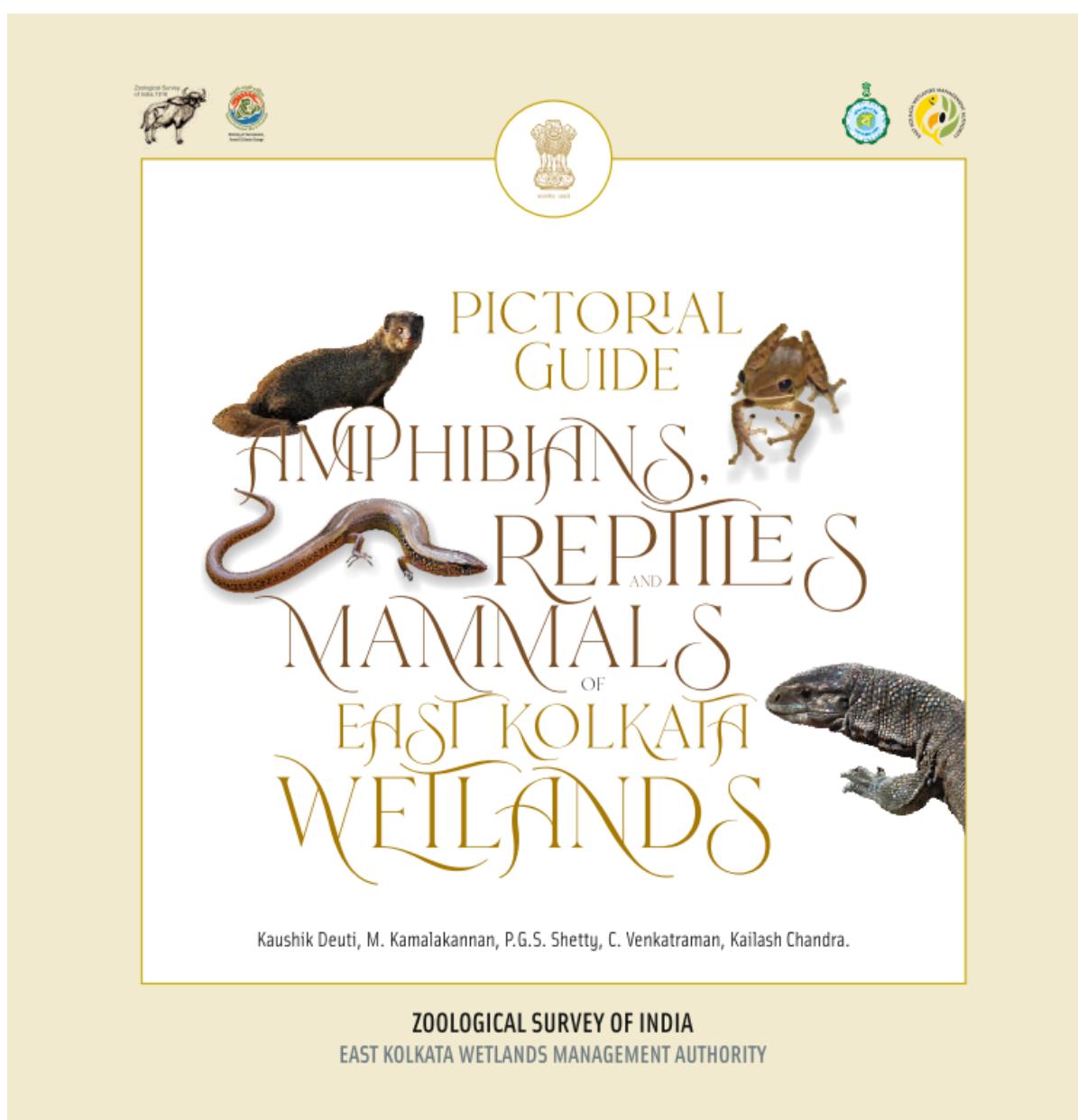
Water Quality Criteria-Designated Best Use

Designated-Best-Use	Class of Water	Criteria
Drinking Water Source without conventional treatment but after disinfection	A	Total Coliforms Organism in MPN/100ml shall be 50 or less pH between 6.5 and 8.5 Dissolved Oxygen 6mg/l or more Biochemical Oxygen Demand 5 days 20C 2mg/l or less
Outdoor (Organised) bathing	B*	Faecal Coliform in MPN/100ml: 500 (desirable) and 2500 (Maximum Permissible) Faecal streptococci in MPN/100 ml: 100 (desirable) and 500 (maximum Permissible) pH between 6.5 to 8.5 Dissolved Oxygen: 5mg/l or more Biochemical Oxygen Demand 3 Day BOD, 27 ° C: 3mg/l or less
Drinking water source after conventional treatment and disinfection	C	Total Coliforms Organism MPN/100ml shall be 5000 or less pH between 6 to 9 Dissolved Oxygen 4mg/l or more Biochemical Oxygen Demand 5 days 20C 3mg/l or less
Propagation of Wild life and Fisheries	D	pH between 6.5 to 8.5 Dissolved Oxygen 4mg/l or more Free Ammonia (as N) 1.2 mg/l or less
Irrigation, Industrial Cooling	E	pH between 6.0 to 8.5 Electrical Conductivity at 25 °C micro mhos/cm Max.2250 Sodium Absorption Ratio Max. 26 Boron Max. 2mg/l

* Class B as per Primary Water Quality Criteria for Bathing Water (Water Used for Organised Outdoor Bathing) as per Environment (Protection) Rules, 1986

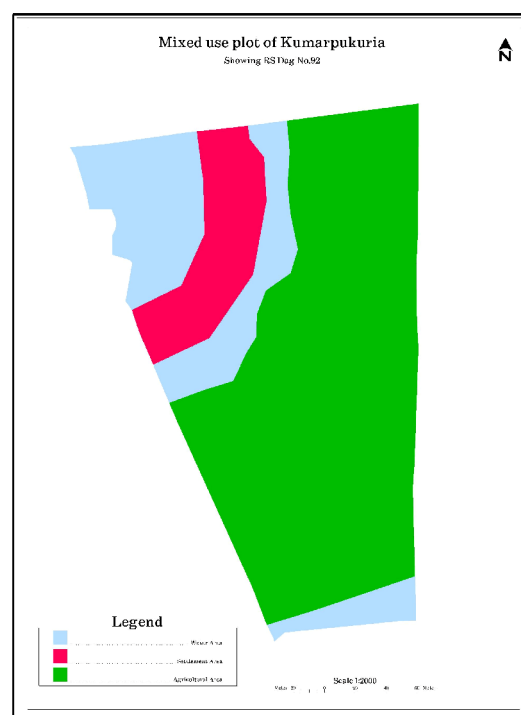
4.2 Documentation of Amphibians, Reptiles and Mammals found in East Kolkata Wetlands

Zoological Survey of India (ZSI) and East Kolkata Wetlands Management Authority (EKWMA) jointly published the Pictorial Guide to Amphibians, Reptiles and Mammals of East Kolkata Wetlands on the occasion of celebrating World Wetlands Day – 2nd February, 2020. ZSI documented 10 species of amphibians, 9 species of lizards, 1 species of turtle, 19 species of snakes and 10 species of mammals East Kolkata Wetlands.



The Schedule I of the East Kolkata Wetlands (Conservation and Management) Act, 2006 depicts the plot/Dag wise land details of all mouzas involved in the East Kolkata Wetlands. Each Dag has been classified either fully under the categories of (i) substantially waterbody area/ (ii) agricultural area/ (iii) productive garbage farming area/ (iv) settlement area or a combination of these categories. In numerous cases, it is found that a single Dag no. falls under multiple land classifications which is referred to as “Mixed use Plot”.

It was found that identification and fixation of each land class from a mixed use plot on map were not feasible as per the land class of EKW(C&M) Act, 2006 as they neither matched with RoRs, nor with GT in several occasions.





4.4 Enforcement of the Act/Rules pertaining to the EKW

4.4.1 In pursuance with the Order dated 21.01.2019 of the Hon'ble High Court at Calcutta in the matter of WP No. 24980(W) of 2018, a Reasoned Order vide no. 115-CTO/EN/450/2018-19 dated 22.04.2019 was passed by the EKWMA after giving a reasonable opportunity of hearing to the respondent no. 15. Copy of the said Order of the Hon'ble Calcutta High Court dated 21.01.2019 is at **Annexure VI** and a copy of said Reasoned Order dated 22.04.2019 is at **Annexure VII**.

After failing to comply with the reasoned order by the respondent no. 15, KMC was requested to demolish the illegal structure in question and restore the land to its previous state.

KLC pulled down the illegal structure at part of RS Dag no. 639 of Mouza Chowbaga, JL No. 3, PS Anandapur.

KMC also dismantled an unauthorised boundary wall situated at RS Dag. no.(s) 305, 306 and 307 of Mouza Dhalenda, JL no. 8, PS Pragati Maidan, Dist. 24 Parganas (South). Some photographs of restoration work are on **Inside Back Cover** of the report.

4.4.2 In order to detect any unauthorized use/ act on the EKW, field inspections were conducted from time to time. Based on field inspection reports, 18 notices for show cause/hearing, 10 notices for stop work/restoration of land were issued and one FIR was lodged.



4.5 Right to Information

Right to Information Act, 2005 (RTI) mandates timely response to citizen requests for government information. The basic object of the RTI Act is to empower the citizens, promote transparency and accountability in the working of the Government, contain corruption, and make the democracy work for the people in real sense. Being a 'Public Authority', the EKWMA is committed towards maintaining accountability and transparency, and making the Right to Information Act, 2005 effectively operational. During this financial year, 19 applications under RTI Act, 2005 were received and subsequently replied.

4.6 Court cases

The list of cases pending before the Hon'ble High Court at Calcutta and the National Green Tribunal relating to East Kolkata Wetlands is given in **Annexure VIII**.

Awareness Generation Activities

5.1 World Wetlands Day

World Wetlands Day (WWD) is celebrated every year on 2nd February year to commemorate the signing of international treaty 'Ramsar Convention on Wetlands' in 1971 for conservation and wise use of wetlands at the global level. The international theme of 'WWD-2020 is "Wetlands and Biodiversity", which draws attention to the fact that 40% of all species live or breed in wetlands and that wetland biodiversity matters, for life to thrive.

Considering the crucial role of wetland ecosystems, the EKWMA commemorated this day for reaffirming their commitment for conservation of wetlands. The day was celebrated at Kheadaha High School situated in the East Kolkata Wetlands. The Principal Secretary, Environment Department and other distinguished guests attended the programme jointly organised by the EKWMA and Society for Creative Opportunities and Participatory Ecosystems (SCOPE). The programme was also richly attended by students and the members of the wetland community.

A Bengali booklet namely "Tomader Kotha" written on the East Kolkata Wetlands for children was re-printed and a notebook especially created were released. The programme served as an important occasion for interaction among key stakeholders.

Some photographs of that event are at **Back Cover** of the report.

5.2 Excursion to the East Kolkata Wetlands

Students from different educational institutes and delegates from International Training Network (INT)-Bangladesh Institute of Engineering & Technology (BUET) have visited East Kolkata Wetlands from time to time. The following table presents the abstract of excursions to the EKW.

Date	Purpose	Participants
September, 2019	Exposure visit to East Kolkata Wetlands	Delegates from ITN-BUET, Bangladesh.
November, 2019	Field trip on 'Household sociometric survey of the local people of EKW'	Students of XII of The Future Foundation School.
February, 2020	Field trip on 'Study of an Ecosystem and its Biodiversity'	B.Sc. 3rd year Zoology (Hons) students of Government General Degree College, Kharagpur II.

Table 1: Abstract of excursion to the EKW



Few photographs of excursion to the East Kolkata Wetlands.

6

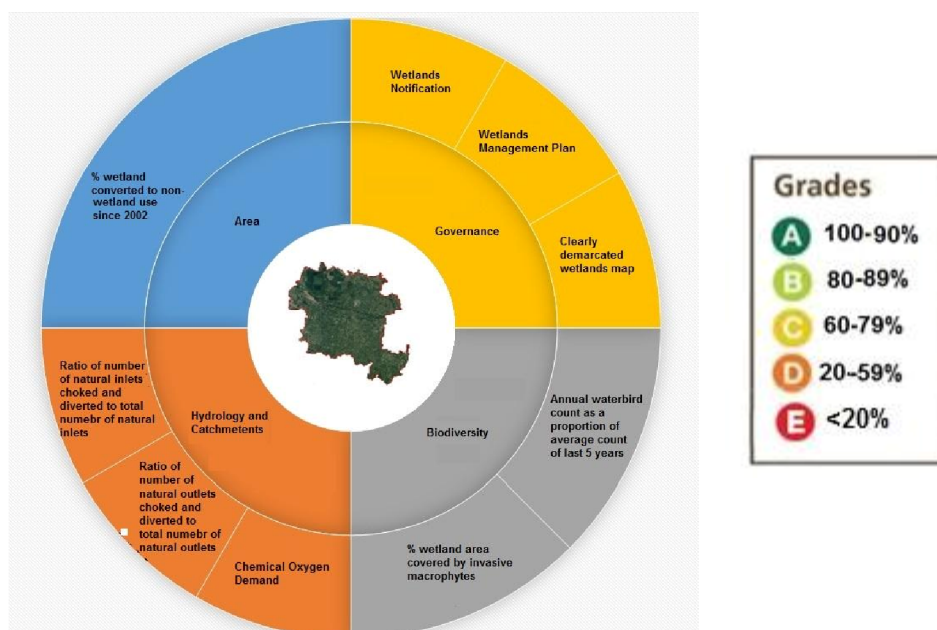
Ecosystem Health Report Card

The health report card of an ecosystem is an effective tool to communicate the complex volume of data and information into a simple communicable format which is understandable by a wide range of people including the local communities, policy maker, and stakeholders. In this regard the health report card of EKW was developed during a two days Regional Workshop on "Conservation and Management of Wetlands (eastern States)" organised by MoEF&CC from 26-27 September, 2019, Kolkata.

Ecosystem health of EKW was assessed by taking 9 indicators into consideration. They are clustered under four features/indices: Area, Hydrology and Catchments, Biodiversity, and Governance. Together these indicators were valued to measure the ecosystem features of EKW.

Desired (threshold) conditions for each indicator were fixed on available guidelines, current scientific knowledge, and historical data with trends, and by taking into account the influence of a variable climate from year to year.

Overall, EKW scored Grade **B** (80-89%) for ecosystem health based on performance of 9 indicators.





7

Wetland Mitra

The concept of 'Wetland Mitra' is an informal, voluntary and non-statutory network of concerned citizens to foster and promote community engagement in wetlands conservation and management efforts. An effective 'Wetland Mitra' network is poised to enable wetland management to gain access to local views, rights and capacities for supporting wetlands management. The network is also aimed as a communication and outreach vehicle for promoting awareness on the value of wetlands, and management and conservation efforts. By involving themselves within the Wetland Mitra network, citizens gain an opportunity of shaping wetlands management by bringing onboard indigenous local knowledge, and views of diverse stakeholder groups.

Key role and responsibilities of Wetland Mitra are as follows:

- a. Promote awareness on the relevance, values and functions of the wetlands with local communities, students, resident welfare groups and other stakeholders.
- b. Build a team of Wetland Mitras and engage in its restoration, rejuvenation & management
- c. Participate in wetlands management planning and implementation processes
- d. Alert authorities on any activity detrimental to wetlands

To be a Wetland Mitra, on the occasion of World Wetlands Day 2020, the following four members were enrolled in our Wetland Mitra Network of the EKW:

1. Mr. Altup Sekh, Headmaster, Kheadaha High School (HS).
2. Mr. Manas Halder, Headmaster, Bamanghata High School.
3. Mr. Sukumar Mandal, Assistant Headmaster, Kheadaha High School (HS).
4. Dr. Subir K. Ghosh, Expert/Researcher.

The Form to be a Wetland Mitra is at **Annexure IX**.



8

Finances

In terms of section 13 of the East Kolkata Wetlands (Conservation and Management) Act, 2006 the EKWMA has to maintain proper accounts which are audited by the Accountant General, West Bengal.

Abstract of receipts and expenditure, and Budget Estimate of EKWMA for the period of 2019-2020 are given at Table 2 and Table 3 respectively.

Financial Year	Name of Head	Opening Balance (Rs.)	Receipts (Rs.)	Expenditure (Rs.)	Closing Balance (Rs.)
2019-2020	3435-03-102-002-36-00	28,811.00	44,49,000.00	43,97,272.00	80,539.00
	3435-03-102-002-31-02	0.00	26,20,000.00	26,20,000.00	0.00
	3435-03-102-001-31-02	52,47,510.00	1,40,000.00	0.00	1,40,000.00*
	3435-04-103-004-31-02	20,972.00	0.00	9,172.00	11,800.00
	3435-03-003-002-31-02	0.00	6,41,075.00	0.00	6,41,075.00
	3435-03-003-001-31-02	0.00	52,29,077.00	52,29,077.00	0.00
	3435-03-003-003-31-02	0.00	5,58,615.00	0.00	5,58,615.00

*Rs. 52,47,510.00 was surrendered on 29.07.2019.

Table 2: Abstract of receipts and expenditure of the EKWMA for 2019-20

Financial Year	Name of Head	Budget Estimate (Rs.)
2019-2020	3435-03-102-002-36-00	55,00,000.00
	3435-03-102-002-31-02	26,20,000.00

Table 3: Budget for the year 2019-20



Annexure I

Minutes of the 29th meeting of the East Kolkata Wetlands Management Authority (EKWMA) held on 20th December, 2019 in the Chief Secretary's Conference Room, Nabanna
Members present:

1. Prof. (Dr.) Soumen Kumar Mahapatra, Hon'ble Minister-in-Charge, Environment Department – Chairman
2. Shri Rajiva Sinha, Chief Secretary – Member
3. Shri Prabhat Kumar Mishra, Principal Secretary, Environment Department – Member Secretary
4. Shri S. Kishore, Additional Chief Secretary, Fisheries Department – Member
5. Shri Manoj Pant, Principal Secretary, Land & Land Reforms Department – Member
6. Smt. Nandini Chakraborty, Principal Secretary, Tourism Department – Member
7. Dr. Kalyan Rudra, Expert Member
8. Shri Subrata Mukherjee, Managing Director, West Bengal State Fisheries Development Corporation – Expert Member
9. Shri Khalil Ahmed, commissioner, Kolkata Municipal Corporation– Permanent Invitee
10. Dr. P. Ulanganathan, District Magistrate, South 24 Parganas– Permanent Invitee
11. Smt. Chaitali Chakraborty, District Magistrate, South 24 Parganas– Permanent Invitee

Special Invitees:

1. Additional District Magistrate (LR), North 24-Parganas
2. Shri Dibyendu Das, Special Secretary, Panchayats and Rural Development Department.
3. Shri Manas Chakraborty, Joint Secretary, Irrigation and waterways Department
4. Shri Nitish Dhali, DL&LRO, South 24-Parganas
5. Shri Bhaskar Pal, Dy.DL&LRO, South 24-Parganas
6. Shri Partha Samanta, Dy. CE(C)/E&H, KMC
7. Shri Niraj Singhal, Chief Technical Officer, EKWMA

The Chairperson, EKWMA welcomed all the Members and Invitees. After discussion, the following decisions were taken.

1. Confirmation of the minutes of the previous meeting of the EKWMA held on 14/07/2019

The minutes of the previous meeting of the East Kolkata Wetlands Management Authority held on 14th July, 2017 were confirmed.

2. Annual accounts of the EKWMA for 2018-19

Annual accounts of the EKWMA for the year 2018-19, audited by a Chartered Accountant Firm, was approved by the EKWMA. Principal Secretary, Environment Department informed that Officer of the Principal Accountant General (Economics & Revenue Audit), West Bengal had recently conducted the audit.

3. Closure of Bank Accounts of EKWMA

At present there are three savings bank accounts in the name of East Kolkata Wetlands Management Authority with different Nationalized Banks. Out of the three accounts, accounts pertaining to Bank of India and UCO Bank became inoperative and last cheque was issued from the accounts of those bank on 01/12/2008 and on 16/03/2018 respectively. The authority approved to close two inoperative bank accounts with following details:

- (i) Bank of India, Branch: Kolkata Main, 23A-B, N. S. Road, Kolkata – 700001, A/c No.- 400010110000050
- (ii) UCO Bank, Branch: Yuba Bharati Kirangan, Salt Lake, Sector – 3, Kolkata – 700098, A/c No.- 18980100001833



4. Miscellaneous unauthorised constructions over the East Kolkata Wetlands

The Principal Secretary, Environment Department informed the Authority that a meeting was conducted on 02.12.2019 with the Commissioner, Kolkata Municipal Corporation, and Bidhannagar Municipal Corporation, District Magistrate North and South 24 Parganas, police authorities of Bidhannagar Police Commissionerate, Kolkata Police Commissionerate and Baruipur Police District on this issue. It was decided that

- The Police Authorities would expedite the processing of FIRs lodged against the violators within a stipulated time frame and take pro-active action in case of any complaints/FIRs within the EKW so that no further violation takes place.
- The District Administration and KMC would take initiatives for demolition and restoration work within their respective jurisdiction.
- The pending cases in courts would be pursued for early disposal.

The Authority took a serious note on the violation of the acts, rules pertaining to the wetlands. It was recommended that strict action would be taken against the violators by the concerned departments/agencies.

5. Integrated Management Plan of the East Kolkata Wetlands

The matter was discussed and it was decided that copy of earlier management plan prepared by the Wetland International for East Kolkata Wetlands of 2008 would be circulated among the expert members of State Wetlands Authority/EKWMA for their suggestion and recommendations for its updation. The Technical Committee constituted under the Wetlands (Conservation and Management) Rules, 2017 would supervise the updation. The Environment Department will finalise the plan by 31st March, 2020.

The meeting ended with vote of thanks to and from the chair.

(Prof. (Dr.) Soumen Kumar Mahapatra)
Chairman, East Kolkata Wetlands Management Authority
&
Minister-in-Charge, Environment Department



Annexure II

Minutes of the second meeting of the State Wetlands Authority held on 20th December, 2019 in the Chief Secretary's Conference Room, Nabanna

Members present:

1. Prof. (Dr.) Soumen Kumar Mahapatra, Hon'ble Minister-in-Charge, Environment Department - Chairperson
2. Shri Rajiva Sinha, Chief Secretary – Vice Chairperson
3. Shri Prabhat Kumar Mishra, Principal Secretary, Environment Department and Water Resources Investigation and Development Department – Member Secretary
4. Shri S. Kishore, Additional Chief Secretary, Fisheries Department – Member
5. Shri Subrata Gupta, Principal Secretary, Urban Development & Municipal Affairs Department – Member
6. Shri Manoj Pant, Principal Secretary, Land & Land Reforms Department – Member
7. Shri Barun Kumar Ray, Principal Secretary, Science & Technology Department – Member
8. Smt. Nandini Chakraborty, Principal Secretary, Tourism Department – Member
9. Shri Ravi Kant Sinha, Chief Wildlife Warden, West Bengal – Member
10. Dr. Rajesh Kumar, Member Secretary, West Bengal Pollution Control Board – Member
11. Prof. Arunabha Majumder – Expert Member
12. Dr. Pratap Kumar Mukhopadhyay – Expert Member
13. Prof. Basab Chaudhuri – Expert Member
14. Shri Niraj Singhal, Chief Environment Officer, Environment Department -Member
15. Shri Dibyendu Das, Special Secretary, Panchayats and Rural Development Department.
16. Shri Manas Chakraborty, Joint Secretary, Irrigation and waterways Department

1. Confirmation of the minutes of the first meeting of the State Wetlands Authority

The minutes of the first meeting of the State Wetlands Authority held on 29th November, 2017 were confirmed.

2. Sewage inflow into the East Kolkata Wetlands (EKW)

Member Secretary of the Authority informed that the issue was taken up with the National Wetlands Committee and the Committee opined that the sewage inflow to the EKW cannot be stopped as it is the uniqueness of the wetland.

3. Disposal of solid waste in Dhapa

Chief Secretary informed that Urban Development Department and Kolkata Municipal Corporation are in the process of reclaiming the existing dumpsite of Dhapa and Mollar Bheri by means of biomining. Solid waste cannot be dumped in the EKW. Urban Development Department and Kolkata Municipal Corporation will inform this Authority how to reuse the materials released from the biomining and reclaim the landfill site.

4. Construction activities in the EKW including provision for public works

The Authority decided that the Environment Department would develop norms for constructional activities within the EKW and the norms should be in strictly in accordance with Acts and Rules.

5. Notification of identified wetlands

Principal Secretary, Environment Department informed that 19 wetlands had been identified in the State of west Bengal which are having area >500 ha and have been categorised as inland natural lakes or cut off meanders as per National Wetland Atlas. An exercise of preparing the land details of these wetlands will be



immediately taken up in consultation with L & LR Deptt. and Fisheries Deptt, so that these can be notified under National Wetland Rules, 2017.

Shri Ravi Kant Sinha, Chief Wildlife Warden, West Bengal informed the Authority that three important wetlands namely Narathali lake in Alipurduar, Rasik Beel in Cooch Behar and Ahiron Beel in Mushidabad are managed by Wildlife wing of Forest department. The Authority unanimously decided to notify these wetlands following the due process.

6. Periodically analyze the heavy metal content present in fishes and vegetables grown to EKW

Principal Secretary, Environment Department informed the Authority that heavy metals from different parts of fishes collected from EKW and vegetables from Dhapa area are being analysed by IESWM. The project will be completed by March, 2020. Traces of heavy metals were found in the first interim report. It was decided in the meeting the Fisheries, Agriculture and Horticulture departments would strictly monitor the issue and would promote the organic farming in the EKW area.

7. Reconstitution of Technical Committee and Grievance Committee

The Authority approved the newly constituted Technical Committee and Grievance Committee as below:

Technical Committee:-

Chairman, West Bengal Pollution Control Board	- Chairman
Chief Environment Officer, Environment Department	- Member Secretary
Member Secretary, West Bengal Biodiversity Board	- Member
Director of Fisheries, Fisheries Department	- Member
Director of Agricultural, Agricultural Department	- Member

All the expert members of SWA would be Special Invitees

Grievance Committee:-

Special Secretary/Joint Secretary, Environment Department	- Chairperson
Environment Engineer, Public Grievance Cell, WBPCB	- Member
Senior Law Officer/ Law Officer, Environment Department	- Member
Environment Officer, Department of Environment	- Member Secretary

The meeting ended with vote of thanks to and from the chair.

(Prof. (Dr.) Soumen Kumar Mahapatra)
Chairman, State Wetlands Authority
&
Minister-in-Charge, Environment Department



Annexure III



State Wetlands Authority
Department of Environment, Government of West Bengal
Pranisampad Bhavan, 5th Floor, LB-2, Sector-III, Salt Lake, Kolkata – 700 106

No. **076** -SWA/EN/10/2019-20Dated, Kolkata the **20th** February, 2020**NOTIFICATION**

Whereas the Technical Committee has been constituted in according with Rule 5(6)(a) of the Wetlands (Conservation and Management) Rules, 2017 to review the brief documents, management plans, and advise on any technical matter referred by the State Wetlands Authority.

Now in partial modification of the earlier notification No. 1414-EN/1C-07/2014 dated, Kolkata the 17th July, 2019, the Technical Committee is hereby reconstituted with the following composition:

- | | | |
|--|---|------------------|
| 1. Chairman, West Bengal Pollution Control Board | - | Chairman |
| 2. Chief Environment Officer, Environment Department | - | Member Secretary |
| 3. Member Secretary, West Bengal Biodiversity Board | - | Member |
| 4. Director of Fisheries, Fisheries Department | - | Member |
| 5. Director of Agriculture, Agricultural Department | - | Member |

All the expert members of the State Wetlands Authority would be Special Invitees.

The Committee may co-opt other member(s) for specific purpose or to undertake a specific role.

By Order,

Principal Secretary to Govt. of West Bengal



Annexure IV



State Wetland Authority
Department of Environment, Government of West Bengal
Pranisampad Bhaban, 5th Floor, LB-2, Sector-III, Salt lake, Kolkata-700 106

No. **1415**/EN/1C-07/2014

Dated, Kolkata the **17th** July 2019

NOTIFICATION

Whereas the Grievance Committee has been constituted in accordance with Rule 5(6)(b) of the Wetlands (Conservation and Management) Rules, 2017 to provide a mechanism for hearing and forwarding grievances raised by public to State Wetlands Authority.

Now in partial modification of the earlier notification No. 084-EN/1C-07/2014 dated, Kolkata the 12th March, 2018, the Grievance Committee is hereby reconstituted with the following composition :

- | | |
|--|---------------------|
| 1. Special Secretary/Joint Secretary, Environment Department | - Chairperson |
| 2. Environment Engineer, Public Grievance Cell, WBPCB | - Member |
| 3. Senior Law Officer / Law Officer, Environment Department | - Member |
| 4. Environment Officer, Environment Department | - Member Secretary. |

By Order,

Principal Secretary to Govt. of West Bengal



Annexure V

KNNBA-A



WEST BENGAL POLLUTION CONTROL BOARD
10A, Block – LA, Sector – III, Salt Lake, Kolkata – 7000106
Ph: (033) 2335 9088/6731/0261, Fax: (033) 2335 8073/2813

ANALYSIS REPORT

Sample supplied by: Mr. Tarak Das		Date of collection: 22/06/2018	
Name	Address:		
EAST KOLKATA WETLANDS MANAGEMENT AUTHORITY	Parnisampad Bhaban, 5 th floor, LB-2, Sector III, Salt Lake, Kolkata -700 106		
SAMPLE DETAILS			
(As per information submitted by: Mr. Tarak Das)			
SL.No.		Time of collection	T U
1	Inlet point of Har Har Bheri ; near Bantala Lock gate, from Fishery Feed canal	11:40 hrs.	
2	Gushigata Lock Gate (water of SWF and DWF)	12:40 hrs.	
3	Water of Kestopore canal near lockgate at Ghaskhali (Kulti anchal)	13:15 hrs.	
4	Out let Point of Bamanghata Jalpath near new bridge	14:08 hrs.	
5	Out let Point of Uttar Hatgachha near Sardar para	15:00 hrs.	

RESULT

Parameters	1	2	3	4	5	Method
Conductivity μS/cm	767.0	1039.0	1146.0	703.2	733.5	APHA Standard Methods 2510 B (2012), 22 nd edition
Salinity gm/kg	0.0	2.0	0.0	5.0	3.0	APHA standard Methods 2520D, (2012) 22 nd edition
DO mg/l	8.5	NIL	6.9	5.0	6.0	APHA Standard Methods 4500-OC, 22 nd edition (2012)
BOD mg/l	15.50	13.61	4.72	21.0	10.83	i. APHA Standard Methods 5210B ii. IS3025 (part 44):1993, iii. CPCB Analytical techniques series LATS/4/87-88. (Validity of BOD determination at high temp. 3days at 27°C)
pH	6.32	6.57	6.85	6.86	6.86	APHA Standard Methods 4500 - H ⁺ B, 22 nd edition (2012)
Turbidity NTU	26.4	28.4	36.8	26.10	33.0	APHA Standard Methods 2130B (2012) 22 nd edition
TSS mg/l	76.0	126.0	64.0	128.0	92.0	APHA Standard Methods 2540D (2012)
TS mg/l	380.0	608.0	634.0	400.0	392.0	APHA Standard Methods 2540B (2012)
Alkalinity mg/l	148.0	200.00	172.0	140.0	124.0	APHA Standard Methods 2320 (2012)
COD mg/l	47.82	78.26	39.17	139.12	60.86	APHA Standard Methods 5220B&5220D (2012)
NH ₄ N mg/l	2.08	20.60	5.22	6.19	1.10	APHA Standard Methods 4500-NH ₃ B and 4500-NH ₃ D; (2012)
NO ₃ mg/l	0.62	0.43	0.46	0.34	0.56	APHA Standard Methods 4500-NO ₃ ⁻ E; (2012)
NO ₂ mg/l	0.076	0.012	0.045	0.024	0.154	APHA Standard Methods 4500-NO ₂ ⁻ B; (2012)
Total Nitrogen mg/l	10.55	23.77	11.19	12.11	6.57	APHA Standard Methods 4500-NO ₃ ⁻ E; (2012), APHA Standard Methods 4500-NO ₂ ⁻ B; (2012), APHA standard Methods 4500-N _{org} B, & 4500-NH ₃ C, 4500-NH ₃ D (2012) DIN EN ISO 11905-1
Total Phosphate as PO ₄ -P mg/l	0.21	0.55	0.24	0.23	0.07	APHA Standard Methods 4500- P B, 3030 K (digestion) & 4500-P D (determination); (2012)
TC MPN/100ml	500000	1600000	50000	1600000	300000	APHA Standard Methods 9221B&C (2012)
FC MPN/100ml	240000	900000	50000	900000	300000	APHA Standard Methods 9221E&C (2012)

Dr. Ram Krishna saha
31.08.2018
Dr. Ram Krishna saha
Sr. Scientist

Ujjal Kr. Mukhopadhyay
31.08.2018
Ujjal Kr. Mukhopadhyay
Chief Scientist



WEST BENGAL POLLUTION CONTROL BOARD
10A, Block – LA, Sector – III, Salt Lake, Kolkata – 7000106
Ph: (033) 2335 9088/6731/0261, Fax: (033) 2335 8073/2813

ANALYSIS REPORT

Annexure - A

Sample supplied by: Mr.Tarak Das		Date of collection: 27/07/2018		
Name	Address:			
EAST KOLKATA WETLANDS MANAGEMENT AUTHORITY	Parnisampad Bhaban,5 th floor, LB-2, Sector III, Salt Lake, Kolkata -700 106			
SAMPLE DETAILS				
(As per information submitted by:Mr. Tarak Das)				
SL.No.		Time of collection	T	U
1	Inlet point of Har Har Bheri ; near Bantala Lock gate, from Fishery Feed canal	11:35 hrs.		
2	Gushigata Lock Gate (water of SWF and DWF)	13:05 hrs.		
3	Water of Kestopore canal near lockgate at Ghaskhali (Kulti anchal)	13:38 hrs.		
4	Out let Point of Bamanghata Jalpath near new bridge	12:05 hrs.		
5	Out let Point of Uttar Hatgachha near Sardar para	15:14 hrs.		

RESULT

Parameters	1	2	3	4	5	Method
Conductivity μS/cm	978.2	1514.0	945.2	510.0	628.2	APHA Standard Methods 2510 B (2012), 22 nd edition
Salinity gm/kg	5.0	0	0	0	0	APHA standard Methods 2520D, (2012) 22 nd edition
DO mg/l	2.7	1.0	2.0	7.2	6.0	APHA Standard Methods 4500-OC, 22 nd edition (2012)
BOD mg/l	12.25	9.64	12.86	8.33	7.28	i. APHA Standard Methods 5210B ii.IS3025 (part 44):1993, iii. CPCB Analytical techniques series LATS/4/87-88. (Validity of BOD determination at high temp. 3days at 27°C)
pH	7.29	7.37	7.41	7.48	7.43	APHA Standard Methods 4500 - H ⁺ B, 22 nd edition (2012)
Turbidity NTU	26.5	61.2	47.0	40.2	17.8	APHA Standard Methods 2130B (2012) 22 nd edition
TSS mg/l	8.0	54.0	24.0	94.0	4.0	APHA Standard Methods 2540D (2012)
TS mg/l	612.0	872.0	584.0	350.0	412.0	APHA Standard Methods 2540B (2012)
Alkalinity mg/l	180.0	136.0	132.0	120.0	128.0	APHA Standard Methods 2320 (2012)
COD mg/l	68.62	49.01	49.01	39.21	19.60	APHA Standard Methods 5220B&5220D (2012)
NH ₄ N mg/l	5.08	3.0	2.51	0.29	0.35	APHA Standard Methods 4500-NH ₃ B and 4500-NH ₃ D; (2012)
NO ₃ mg/l	0.57	0.48	0.46	0.50	0.48	APHA Standard Methods 4500-NO ₃ ⁻ E; (2012)
NO ₂ mg/l	0.47	0.016	0.018	BDL	0.186	APHA Standard Methods 4500-NO ₂ ⁻ B; (2012)
Total Nitrogen mg/l	7.50	6.84	5.90	2.08	5.32	APHA Standard Methods 4500-NO ₃ ⁻ E; (2012), APHA Standard Methods 4500-NO ₂ ⁻ B; (2012), APHA standard Methods 4500-N _{org} B, & 4500-NH ₃ C, 4500-NH ₃ D (2012) DIN EN ISO 11905-1
Total Phosphate as PO ₄ -P mg/l	0.06	0.06	0.08	0.01	0.04	APHA Standard Methods 4500- P B, 3030 K (digestion) & 4500-P D (determination); (2012)
TC MPN/100ml	1600000	1600000	50000	1600000	110000	APHA Standard Methods 9221B&C (2012)
FC MPN/100ml	900000	900000	14000	900000	50000	APHA Standard Methods 9221E&C (2012)

[Signature]
14.11.2018
Dr. Ram Krishna saha
Sr. Scientist

[Signature]
14/11/2018
Ujjal Kr. Mukhopadhyay
Chief Scientist



WEST BENGAL POLLUTION CONTROL BOARD
10A, Block – LA, Sector – III, Salt Lake, Kolkata – 7000106
Ph: (033) 2335 9088/6731/0261, Fax: (033) 2335 8073/2813

Annexure - A

ANALYSIS REPORT

Sample supplied by: Mr.Tarak Das			Date of collection: 27/08/2018			
Name		Address:				
EAST KOLKATA WETLANDS MANAGEMENT AUTHORITY		Parnisampad Bhaban,5 th floor, LB-2, Sector III, Salt Lake, Kolkata -700 106				
SAMPLE DETAILS						
(As per information submitted by:Mr. Tarak Das)						
SL.No.			Time of collection	T	U	
1	Inlet point of Har Har Bheri ; near Bantala Lock gate, from Fishery Feed canal		12:00 hrs.			
2	Gushigata Lock Gate (water of SWF and DWF)		14:18 hrs.			
3	Water of Kestopore canal near lockgate at Ghaskhali (Kulti anchal)		14:48 hrs.			
4	Out let Point of Bamanghata Jalpath near new bridge		12:48 hrs.			
5	Out let Point of Uttar Hatgachha near Sardar para		17:05 hrs.			

RESULT

Parameters	1	2	3	4	5	Method
Conductivity $\mu\text{S}/\text{cm}$	828.1	1610.0	1441	626.2	612.7	APHA Standard Methods 2510 B (2012), 22 nd edition
Salinity gm/kg	0	0	0	0	0	APHA standard Methods 2520D, (2012) 22 nd edition
DO mg/l	1.0	1.7	1.9	4.3	2.3	APHA Standard Methods 4500-OC, 22 nd edition (2012)
BOD mg/l	20.29	9.00	12.72	13.26	5.54	i. APHA Standard Methods 5210B ii. IS3025 (part 44):1993, iii. CPCB Analytical techniques series LATS/4/87-88. (Validity of BOD determination at high temp. 3days at 27°C)
pH	7.26	7.46	7.36	7.45	7.40	APHA Standard Methods 4500 - H ⁺ B, 22 nd edition (2012)
Turbidity NTU	25.3	63.6	36.40	44.5	60.2	APHA Standard Methods 2130B (2012) 22 nd edition
TSS mg/l	6.0	8.0	4.0	8.0	4.0	APHA Standard Methods 2540D (2012)
TS mg/l	378.0	782.0	700.00	328.00	338.0	APHA Standard Methods 2540B (2012)
Alkalinity mg/l	198.0	176.00	180.00	148.00	112.00	APHA Standard Methods 2320 (2012)
COD mg/l	40.00	25.00	30.00	45.00	30.0	APHA Standard Methods 5220B&5220D (2012)
NH ₄ N mg/l	17.60	7.54	6.60	6.00	1.50	APHA Standard Methods 4500-NH ₃ B and 4500-NH ₃ D; (2012)
NO ₃ mg/l	0.47	0.47	0.51	0.53	0.56	APHA Standard Methods 4500-NO ₃ E; (2012)
NO ₂ mg/l	0.018	0.017	0.014	0.055	0.094	APHA Standard Methods 4500-NO ₂ B; (2012)
Total Nitrogen mg/l	18.85	9.64	8.25	7.94	2.80	APHA Standard Methods 4500-NO ₃ E; (2012), APHA Standard Methods 4500-NO ₂ B; (2012), APHA standard Methods 4500-N _{org} B, & 4500-NH ₃ C, 4500-NH ₃ D (2012) DIN EN ISO 11905-1
Total Phosphate as PO ₄ -P mg/l	0.07	BDL	0.26	0.06	0.06	APHA Standard Methods 4500- P B, 3030 K (digestion) & 4500-P D (determination); (2012)
TC MPN/100ml	1600000	280000	240000	900000	70000	APHA Standard Methods 9221B&C (2012)
FC MPN/100ml	900000	220000	130000	500000	50000	APHA Standard Methods 9221E&C (2012)

Dr. Ram Krishna saha
14.11.2018
Dr. Ram Krishna saha
Sr. Scientist

Ujjal Kr. Mukhopadhyay
14/11/2018
Ujjal Kr. Mukhopadhyay
Chief Scientist



WEST BENGAL POLLUTION CONTROL BOARD
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Annexure - A

ANALYSIS REPORT

Sample supplied by: Mr.Tarak Das			Date of collection: 25/09/2018		
Name		Address:			
EAST KOLKATA WETLANDS MANAGEMENT AUTHORITY		Parnisampad Bhaban,5 th floor, LB-2, Sector III, Salt Lake, Kolkata -700 106			
SAMPLE DETAILS					
(As per information submitted by:Mr. Tarak Das)					
SL.No.			Time of collection	T	U
1	Inlet point of Har Har Bheri ; near Bantala Lock gate, from Fishery Feed canal		11:54 hrs.		
2	Gushigata Lock Gate (water of SWF and DWF)		13:30 hrs.		
3	Water of Kestopore canal near lockgate at Ghaskhali (Kulti anchal)		13:05 hrs.		
4	Out let Point of Bamanghata Jalpath near new bridge		14:15 hrs.		
5	Out let Point of Uttar Hatgachha near Sardar para		14:45 hrs.		

RESULT

Parameters	1	2	3	4	5	Method
Conductivity $\mu\text{S}/\text{cm}$	698.5	1680.0	1116.0	583.4	1693.1	APHA Standard Methods 2510 B (2012), 22 nd edition
Salinity gm/kg	0	0	0	0	0	APHA standard Methods 2520D, (2012) 22 nd edition
DO mg/l	NIL	1.0	1.5	9.8	7.4	APHA Standard Methods 4500-OC, 22 nd edition (2012)
BOD mg/l	17.93	14.12	6.79	13.67	20.0	i. APHA Standard Methods 5210B ii. IS 3025 (part 44):1993, iii. CPCB Analytical techniques series LATS/4/87-88. (Validity of BOD determination at high temp. 3days at 27°C)
pH	7.18	7.51	7.47	7.59	7.56	APHA Standard Methods 4500 - H ⁺ B, 22 nd edition (2012)
Turbidity NTU	17.1	226.0	96.50	72.40	74.1	APHA Standard Methods 2130B (2012) 22 nd edition
TSS mg/l	112.0	304.0	112.0	72.0	44.0	APHA Standard Methods 2540D (2012)
TS mg/l	410.0	1158.0	784.0	434.0	456.0	APHA Standard Methods 2540B (2012)
Alkalinity mg/l	184.00	196.0	190.0	112.0	156.0	APHA Standard Methods 2320 (2012)
COD mg/l	30.00	40.0	50.0	45.0	35.0	APHA Standard Methods 5220B&5220D (2012)
NH ₄ N mg/l	9.94	6.10	6.51	0.20	2.22	APHA Standard Methods 4500-NH ₃ B and 4500-NH ₃ D; (2012)
NO ₃ mg/l	0.43	0.34	0.43	1.89	1.94	APHA Standard Methods 4500-NO ₃ E; (2012)
NO ₂ mg/l	0.076	0.071	0.082	0.638	0.474	APHA Standard Methods 4500-NO ₂ B; (2012)
Total Nitrogen mg/l	11.16	7.56	7.83	3.84	5.94	APHA Standard Methods 4500-NO ₃ E; (2012), APHA Standard Methods 4500-NO ₂ B; (2012), APHA standard Methods 4500-N _{org} B, & 4500-NH ₃ C, 4500-NH ₃ D (2012) DIN EN ISO 11905-1
Total Phosphate as PO ₄ -P mg/l	0.03	0.03	0.04	0.03	0.03	APHA Standard Methods 4500- P B, 3030 K (digestion) & 4500-P D (determination); (2012)
TC MPN/100ml	16000000	800000	800000	30000	23000	APHA Standard Methods 9221B&C (2012)
FC MPN/100ml	9000000	330000	40000	13000	13000	APHA Standard Methods 9221E&C (2012)

Dr. Ram Krishna saha
Dr. Ram Krishna saha
Sr. Scientist

Ujjal Kr. Mukhopadhyay
Ujjal Kr. Mukhopadhyay
Chief Scientist



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Annexure - A

ANALYSIS REPORT

Sample supplied by: Mr.Tarak Das & Sanjay Mondal			Date of collection: 29/10/2018		
Name		Address:			
EAST KOLKATA WETLANDS MANAGEMENT AUTHORITY		Parnisampad Bhaban,5 th floor, LB-2, Sector III, Salt Lake, Kolkata -700 106			
SAMPLE DETAILS					
(As per information submitted by:Mr. Tarak Das)					
SL.No.			Time of collection	T	U
1	Inlet point of Har Har Bheri ; near Bantala Lock gate, from Fishery Feed canal		12:05 hrs.		
2	Gushigata Lock Gate (water of SWF and DWF)		13:30 hrs.		
3	Water of Kestopore canal near lockgate at Ghaskhali (Kulti anchal)		13:05 hrs.		
4	Out let Point of Bamanghata Jalpath near new bridge		14:15 hrs.		
5	Out let Point of Uttar Hatgachha near Sardar para		14:45 hrs.		

RESULT

Parameters	1	2	3	4	5	Method
Conductivity $\mu\text{S}/\text{cm}$	835.2	1802.0	1083.0	672.8	560.4	APHA Standard Methods 2510 B (2012), 22 nd edition
Salinity gm/kg	0.0	0.0	0.0	0.0	0.0	APHA standard Methods 2520D, (2012) 22 nd edition
DO mg/l	NIL	NIL	2.4	8.3	4.2	APHA Standard Methods 4500-OC, 22 nd edition (2012)
BOD mg/l	26.75	10.00	10.13	16.61	8.70	i. APHA Standard Methods 5210B ii.IS3025 (part 44):1993, iii. CPCB Analytical techniques series LATS/4/87-88. (Validity of BOD determination at high temp. 3days at 27°C)
pH	6.89	7.31	7.28	7.48	7.50	APHA Standard Methods 4500 - H ⁺ B, 22 nd edition (2012)
Turbidity NTU	38.1	214.0	48.2	93.1	37.2	APHA Standard Methods 2130B (2012) 22 nd edition
TSS mg/l	62.0	286.0	56.0	100.0	36.0	APHA Standard Methods 2540D (2012)
TS mg/l	646.0	488.0	612.0	766.0	1254.0	APHA Standard Methods 2540B (2012)
Alkalinity mg/l	212.0	238.0	224.0	142.0	144.0	APHA Standard Methods 2320 (2012)
COD mg/l	70.53	41.96	33.92	50.89	25.89	APHA Standard Methods 5220B&5220D (2012)
NH ₄ N mg/l	15.80	14.0	10.30	1.09	0.98	APHA Standard Methods 4500-NH ₃ B and 4500-NH ₃ D; (2012)
NO ₃ mg/l	0.44	0.70	0.49	0.52	0.48	APHA Standard Methods 4500-NO ₃ E; (2012)
NO ₂ mg/l	0.022	0.031	0.039	0.287	0.066	APHA Standard Methods 4500-NO ₂ B; (2012)
Total Nitrogen mg/l	18.58	16.42	13.16	2.75	1.94	APHA Standard Methods 4500-NO ₃ E; (2012), APHA Standard Methods 4500-NO ₂ B; (2012), APHA standard Methods 4500-N _{org} B, & 4500-NH ₃ C, 4500-NH ₃ D (2012) DIN EN ISO 11905-1
Total Phosphate as PO ₄ -P mg/l	0.06	0.03	0.03	0.10	0.10	APHA Standard Methods 4500- P B, 3030 K (digestion) & 4500-P D (determination); (2012)
TC MPN/100ml	16000000	50000	21000	340000	500000	APHA Standard Methods 9221B&C (2012)
FC MPN/100ml	5000000	30000	8000	270000	240000	APHA Standard Methods 9221E&C (2012)

Dr. Ram Krishna Saha
02/01/2019
Dr. Ram Krishna Saha
Sr. Scientist

Ujjal Kr. Mukhopadhyay
03/10/19
Ujjal Kr. Mukhopadhyay
Chief Scientist



WEST BENGAL POLLUTION CONTROL BOARD
10A, Block – LA, Sector – III, Salt Lake, Kolkata – 7000106
Ph: (033) 2335 9088/6731/0261, Fax: (033) 2335 8073/2813

Annexure - A

ANALYSIS REPORT

Sample supplied by: Mr.Tarak Das & sanjay Nandy		Date of collection: 27/11/2018		
Name	Address:			
EAST KOLKATA WETLANDS MANAGEMENT AUTHORITY	Parnisampad Bhaban, 5 th floor, LB-2, Sector III, Salt Lake, Kolkata -700 106			
SAMPLE DETAILS				
(As per information submitted by: Mr. Tarak Das)				
SL.No.		Time of collection	T	U
1	Inlet point of Har Har Bheri ; near Bantala Lock gate, from Fishery Feed canal	12:26 hrs.		
2	Gushigata Lock Gate (water of SWF and DWF)	13:50 hrs.		
3	Water of Kestopore canal near lockgate at Ghaskhali (Kulti anchal)	13:30 hrs.		
4	Out let Point of Bamanghata Jalpath near new bridge	14:35 hrs.		
5	Out let Point of Uttar Hatgachha near Sardar para	15:05 hrs.		

RESULT

Parameters	1	2	3	4	5	Method
Conductivity $\mu\text{S}/\text{cm}$	795.7	2525.0	1901.0	741.6	754.0	APHA Standard Methods 2510 B (2012), 22 nd edition
Salinity gm/kg	0.0	0.0	0.0	0.0	0.0	APHA standard Methods 2520D, (2012) 22 nd edition
DO mg/l	0.6	NIL	1.4	13.4	11.0	APHA Standard Methods 4500-OC, 22 nd edition (2012)
BOD mg/l	23.44	18.13	7.14	17.25	21.14	i. APHA Standard Methods 5210B ii. IS3025 (part 44):1993, iii. CPCB Analytical techniques series LATS/4/87-88. (Validity of BOD determination at high temp. 3days at 27°C)
pH	7.36	7.76	7.86	8.02	7.85	APHA Standard Methods 4500 - H ⁺ B, 22 nd edition (2012)
Turbidity NTU	18.8	172.0	42.8	52.0	21.9	APHA Standard Methods 2130B (2012) 22 nd edition
TSS mg/l	44.0	462.0	302.0	82.0	48.0	APHA Standard Methods 2540D (2012)
TS mg/l	460.0	1794.0	1040.0	478.0	474.0	APHA Standard Methods 2540B (2012)
Alkalinity mg/l	204.0	216.0	212.0	164.0	170.00	APHA Standard Methods 2320 (2012)
COD mg/l	86.38	57.92	32.97	63.93	63.40	APHA Standard Methods 5220B&5220D (2012)
NH ₄ N mg/l	13.96	11.23	7.65	2.12	0.77	APHA Standard Methods 4500-NH ₃ B and 4500-NH ₃ D; (2012)
NO ₃ mg/l	0.72	0.66	0.69	0.54	0.68	APHA Standard Methods 4500-NO ₃ E; (2012)
NO ₂ mg/l	0.14	0.16	0.19	0.42	0.26	APHA Standard Methods 4500-NO ₂ B; (2012)
Total Nitrogen mg/l	15.57	13.59	9.99	3.82	2.02	APHA Standard Methods 4500-NO ₃ E; (2012), APHA Standard Methods 4500-NO ₂ B; (2012), APHA standard Methods 4500-N _{org} B, & 4500-NH ₃ C, 4500-NH ₃ D (2012) DIN EN ISO 11905-1
Total Phosphate as PO ₄ -P mg/l	0.01	0.02	0.08	0.02	0.08	APHA Standard Methods 4500- P B, 3030 K (digestion) & 4500-P D (determination); (2012)
TC MPN/100ml	16000000	240000	11000	230000	240000	APHA Standard Methods 9221B&C (2012)
FC MPN/100ml	9000000	70000	2000	60000	34000	APHA Standard Methods 9221E&C (2012)

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02.01.2019.
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03/01/2019
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WEST BENGAL POLLUTION CONTROL BOARD
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Annexure - A

ANALYSIS REPORT

Sample supplied by: Mr.Tarak Das & Sanjay Mondal			Date of collection: 21/12/2018		
Name		Address:			
EAST KOLKATA WETLANDS MANAGEMENT AUTHORITY		Parnisampad Bhaban,5 th floor, LB-2, Sector III, Salt Lake, Kolkata -700 106			
SAMPLE DETAILS					
(As per information submitted by:Mr. Tarak Das)					
SL.No.			Time of collection	T	U
1	Inlet point of Har Har Bheri ; near Bantala Lock gate, from Fishery Feed canal		11:55 hrs.		
2	Gushigata Lock Gate (water of SWF and DWF)		13:05 hrs.		
3	Water of Kestopore canal near lock gate at Ghaskhali (Kulti anchal)		12:50 hrs.		
4	Out let Point of Bamanghata Jalpath near new bridge		14:15 hrs.		
5	Out let Point of Uttar Hatgachha near Sardar para		14:45 hrs.		

RESULT

Parameters	1	2	3	4	5	Method
Conductivity μS/cm	1012.0	3062.0	2812.0	937.8	1112.0	APHA Standard Methods 2510 B (2012), 22 nd edition
Salinity gm/kg	0	0	0	0	0	APHA standard Methods 2520D, (2012) 22 nd edition
DO mg/l	NIL	NIL	NIL	8.0	6.0	APHA Standard Methods 4500-OC, 22 nd edition (2012)
BOD mg/l	21.67	20.00	31.67	32.50	40.71	i. APHA Standard Methods 5210B ii. IS3025 (part 44):1993, iii. CPCB Analytical techniques series LATS/4/87-88. (Validity of BOD determination at high temp. 3days at 27°C)
pH	7.46	7.62	7.75	8.35	7.98	APHA Standard Methods 4500 - H ⁺ B, 22 nd edition (2012)
Turbidity NTU	15.2	36.1	40.2	154.0	33.1	APHA Standard Methods 2130B (2012) 22 nd edition
TSS mg/l	6.0	86.0	40.0	342.0	76.0	APHA Standard Methods 2540D (2012)
TS mg/l	554.0	1638.0	1244.0	810.0	718.0	APHA Standard Methods 2540B (2012)
Alkalinity mg/l	242.0	240.0	238.0	184.0	188.0	APHA Standard Methods 2320 (2012)
COD mg/l	74.56	70.17	122.80	188.60	100.87	APHA Standard Methods 5220B&5220D (2012)
NH ₄ N mg/l	11.20	9.69	6.59	3.53	1.77	APHA Standard Methods 4500-NH ₃ B and 4500-NH ₃ D; (2012)
NO ₃ mg/l	0.69	0.54	0.68	0.64	0.59	APHA Standard Methods 4500-NO ₃ ⁻ E; (2012)
NO ₂ mg/l	0.03	0.04	0.02	0.02	0.03	APHA Standard Methods 4500-NO ₂ ⁻ B; (2012)
Total Nitrogen mg/l	13.83	11.30	8.08	5.05	2.70	APHA Standard Methods 4500-NO ₂ ⁻ E; (2012), APHA Standard Methods 4500-NO ₃ ⁻ E; (2012), APHA standard Methods 4500-N _{org} B, & 4500-NH ₃ C, 4500-NH ₃ D (2012) DIN EN ISO 11905-1
Total Phosphate as PO ₄ -P mg/l	0.03	0.03	0.05	0.03	0.04	APHA Standard Methods 4500- P B, 3030 K (digestion) & 4500-P D (determination); (2012)
TC MPN/100ml	9000000	170000	17000	800000	220000	APHA Standard Methods 9221B&C (2012)
FC MPN/100ml	5000000	110000	7000	500000	170000	APHA Standard Methods 9221E&C (2012)

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Annexure - A

ANALYSIS REPORT

Sample supplied by: Mr.K.S Rahaman & Sanjay Mondal			Date of collection: 29/01/2019		
Name		Address:			
EAST KOLKATA WETLANDS MANAGEMENT AUTHORITY		Parnisampad Bhaban,5 th floor, LB-2, Sector III, Salt Lake, Kolkata -700 106			
SAMPLE DETAILS					
(As per information submitted by:Mr. Tarak Das)					
SL.No.		Time of collection	T	U	
1	Inlet point of Har Har Bheri ; near Bantala Lock gate, from Fishery Feed canal	11:40 hrs.			
2	Gushigata Lock Gate (water of SWF and DWF)	13:05 hrs.			
3	Water of Kestopore canal near lockgate at Ghaskhali (Kulti anchal)	12:45 hrs.			
4	Out let Point of Bamanghata Jalpath near new bridge	13:50 hrs.			
5	Out let Point of Uttar Hatgachha near Sardar para	14:20 hrs.			

RESULT

Parameters	1	2	3	4	5	Method
Conductivity $\mu\text{S/cm}$	882.3	2745.0	1862.0	885.40	1044.0	APHA Standard Methods 2510 B (2012), 22 nd edition
Salinity gm/kg	0	0	0	0	0	APHA standard Methods 2520D, (2012) 22 nd edition
DO mg/l	NIL	NIL	7.1	8.2	6.2	APHA Standard Methods 4500-OC, 22 nd edition (2012)
BOD mg/l	47.14	32.50	14.69	15.31	25.55	I. APHA Standard Methods 5210B ii. IS3025 (part 44):1993, iii. CPCB Analytical techniques series LATS/4/87-88. (Validity of BOD determination at high temp. 3days at 27°C)
pH	7.69	7.23	7.82	7.78	7.67	APHA Standard Methods 4500 - H ⁺ B, 22 nd edition (2012)
Turbidity NTU	26.10	139.0	12.60	93.40	66.30	APHA Standard Methods 2130B (2012) 22 nd edition
TSS mg/l	86.0	32.0	120.0	26.0	112.0	APHA Standard Methods 2540D (2012)
TS mg/l	1260.0	434.0	584.0	910.0	690.0	APHA Standard Methods 2540B (2012)
Alkalinity mg/l	254.0	258.0	250.0	204.0	212.0	APHA Standard Methods 2320 (2012)
COD mg/l	95.24	157.14	90.48	85.71	76.19	APHA Standard Methods 5220B&5220D (2012)
NH ₄ N mg/l	20.00	22.80	8.56	0.40	3.92	APHA Standard Methods 4500-NH ₃ B and 4500-NH ₃ D; (2012)
NO ₃ mg/l	0.65	0.66	0.67	0.60	0.65	APHA Standard Methods 4500-NO ₃ E; (2012)
NO ₂ mg/l	0.02	0.02	0.01	0.01	0.01	APHA Standard Methods 4500-NO ₂ B; (2012)
Total Nitrogen mg/l	22.00	25.85	10.29	1.33	5.10	APHA Standard Methods 4500-NO ₃ E; (2012), APHA Standard Methods 4500-NO ₂ B; (2012), APHA standard Methods 4500-N _{org} B, & 4500-NH ₃ C, 4500-NH ₃ D (2012) DIN EN ISO 11905-1
Total Phosphate as PO ₄ -P mg/l	0.05	0.04	0.04	0.05	0.05	APHA Standard Methods 4500- P B, 3030 K (digestion) & 4500-P D (determination); (2012)
TC MPN/100ml	140000	1600000	4000	30000	1600000	APHA Standard Methods 9221B&C (2012)
FC MPN/100ml	50000	900000	2000	13000	900000	APHA Standard Methods 9221E&C (2012)

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Annexure - A

ANALYSIS REPORT

Sample supplied by: Mr.K.S Rahaman & Mr.Sanjay Mondal		Date of collection: 28/07/2019		
Name	Address:			
EAST KOLKATA WETLANDS MANAGEMENT AUTHORITY	Parnisampad Bhaban,5 th floor, LB-2, Sector III, Salt Lake, Kolkata -700 106			
SAMPLE DETAILS				
(As per information submitted by:Mr. Tarak Das)				
SL.No.		Time of collection	T	U
1	Inlet point of Har Har Bheri ; near Bantala Lock gate, from Fishery Feed canal	10:55 hrs.		
2	Gushigata Lock Gate (water of SWF and DWF)	12:25 hrs.		
3*	Water of Kestopore canal near lockgate at Ghaskhali (Kulti anchal)	12:00 hrs.		
4	Out let Point of Bamanghata Jalpath near new bridge	13:15 hrs.		
5	Out let Point of Uttar Hatgachha near Sardar para	13:50 hrs.		

RESULT

Parameters	1	2	3	4	5	Method
Conductivity $\mu\text{S/cm}$	692.60	816.30	810.60	953.90	955.10	APHA Standard Methods 2510 B (2012), 22 nd edition
Salinity gm/kg	0	0	0	0	0	APHA standard Methods 2520D, (2012) 22 nd edition
DO mg/l	0.7	1.2	0.5	4.5	5.5	APHA Standard Methods 4500-OC, 22 nd edition (2012)
BOD mg/l	14.45	10.0	16.92	6.0	15.75	i. APHA Standard Methods 5210B ii. IS 3025 (part 44):1993, iii. CPCB Analytical techniques series LATS/4/87-88. (Validity of BOD determination at high temp. 3days at 27°C)
pH	7.93	7.45	7.74	7.63	7.61	APHA Standard Methods 4500 - H ⁺ B, 22 nd edition (2012)
Turbidity NTU	41.20	48.50	89.30	78.50	42.80	APHA Standard Methods 2130B (2012) 22 nd edition
TSS mg/l	28.0	60.0	86.0	76.0	76.0	APHA Standard Methods 2540D (2012)
TS mg/l	356.0	482.0	540.0	426.0	252.0	APHA Standard Methods 2540B (2012)
Alkalinity mg/l	262.0	268.0	256.0	232.0	236.0	APHA Standard Methods 2320 (2012)
COD mg/l	55.0	35	30.0	20.0	35.0	APHA Standard Methods 5220B & 5220D (2012)
NH ₄ N mg/l	21.80	22.30	10.40	2.29	0.97	APHA Standard Methods 4500-NH ₃ B and 4500-NH ₃ D; (2012)
NO ₃ mg/l	0.40	0.34	0.11	0.12	0.94	APHA Standard Methods 4500-NO ₃ E; (2012)
NO ₂ mg/l	0.14	0.12	0.015	0.02	0.01	APHA Standard Methods 4500-NO ₂ B; (2012)
Total Nitrogen mg/l	22.70	24.97	12.36	3.22	2.23	APHA Standard Methods 4500-NO ₃ E; (2012), APHA Standard Methods 4500-NO ₂ B; (2012), APHA standard Methods 4500-N _{org} B, & 4500-NH ₃ C, 4500-NH ₃ D (2012) DIN EN ISO 11905-1
Total Phosphate as PO ₄ -P mg/l	0.140	0.15	0.22	0.16	0.10	APHA Standard Methods 4500- P B, 3030 K (digestion) & 4500-P D (determination); (2012)
TC MPN/100ml	170000	900000	22000	80000	1600000	APHA Standard Methods 9221B & C (2012)
FC MPN/100ml	110000	500000	17000	50000	900000	APHA Standard Methods 9221E & C (2012)

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Annexure - A

ANALYSIS REPORT

Sample supplied by: Mr.K.S Rahaman & Mr.Sanjay Mondal		Date of collection: 28/03/2019		
Name		Address:		
EAST KOLKATA WETLANDS MANAGEMENT AUTHORITY		Parnisampad Bhaban,5 th floor, LB-2, Sector III, Salt Lake, Kolkata -700 106		
SAMPLE DETAILS				
(As per information submitted by:Mr. Tarak Das)				
SL.No.		Time of collection	T	U
1	Inlet point of Har Har Bheri ; near Bantala Lock gate, from Fishery Feed canal	11:30 hrs.		
2	Gushigata Lock Gate (water of SWF and DWF)	12:50 hrs.		
3	Water of Kestopore canal near lockgate at Ghaskhali (Kulti anchal)	12:30 hrs.		
4	Out let Point of Bamanghata Jalpath near new bridge	13:45 hrs.		
5	Out let Point of Uttar Hatgachha near Sardar para	14:05 hrs.		

RESULT

Parameters	1	2	3	4	5	Method
Conductivity $\mu\text{S}/\text{cm}$	826.40	2062.0	1528.0	756.90	838.60	APHA Standard Methods 2510 B (2012), 22 nd edition
Salinity gm/kg	0	0	0	0	0	APHA standard Methods 2520D, (2012) 22 nd edition
DO mg/l	NIL	NIL	5.5	0.8	1.9	APHA Standard Methods 4500-OC, 22 nd edition (2012)
BOD mg/l	18.30	20.0	5.18	11.83	17.59	i. APHA Standard Methods 5210B ii. IS3025 (part 44):1993, iii. CPCB Analytical techniques series LATS/4/87-88. (Validity of BOD determination at high temp. 3days at 27°C)
pH	7.33	7.63	7.80	7.62	7.72	APHA Standard Methods 4500 - H ⁺ B, 22 nd edition (2012)
Turbidity NTU	11.30	49.10	8.12	72.60	32.20	APHA Standard Methods 2130B (2012) 22 nd edition
TSS mg/l	48.0	62.0	6.0	124.0	42.0	APHA Standard Methods 2540D (2012)
TS mg/l	530.0	1208.0	940.0	742.0	702.0	APHA Standard Methods 2540B (2012)
Alkalinity mg/l	248.0	268.0	162.0	164.0	200.0	APHA Standard Methods 2320 (2012)
COD mg/l	18.30	35.0	10.0	20.0	25.0	APHA Standard Methods 5220B & 5220D (2012)
NH ₄ N mg/l	14.20	15.40	8.63	1.39	1.17	APHA Standard Methods 4500-NH ₃ B and 4500-NH ₃ D; (2012)
NO ₃ mg/l	0.11	0.31	0.39	0.13	0.34	APHA Standard Methods 4500-NO ₃ E; (2012)
NO ₂ mg/l	0.10	0.02	0.27	0.02	0.33	APHA Standard Methods 4500-NO ₂ B; (2012)
Total Nitrogen mg/l	16.29	18.24	10.78	1.79	2.20	APHA Standard Methods 4500-NO ₃ E; (2012), APHA Standard Methods 4500-NO ₂ B; (2012), APHA standard Methods 4500-N _{org} B, & 4500-NH ₃ C, 4500-NH ₃ D (2012) DIN EN ISO 11905-1
Total Phosphate as PO ₄ -P mg/l	0.17	0.10	0.05	0.11	0.07	APHA Standard Methods 4500- P B, 3030 K (digestion) & 4500-P D (determination); (2012)
TC MPN/100ml	1300000	900000	110000	130000	2400000	APHA Standard Methods 9221B & C (2012)
FC MPN/100ml	800000	500000	80000	80000	1300000	APHA Standard Methods 9221E & C (2012)

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Annexure - A

ANALYSIS REPORT

Sample supplied by: Mr.K.S Rahaman & Sanjay Mondal		Date of collection: 26/04/2019	
Name		Address:	
EAST KOLKATA WETLANDS MANAGEMENT AUTHORITY		Parnisampad Bhaban, 5 th floor, LB-2, Sector III, Salt Lake, Kolkata -700 106	
SAMPLE DETAILS			
(As per information submitted by: Mr. Tarak Das)			
SL.No.		Time of collection	T U
1	Inlet point of Har Har Bheri ; near Bantala Lock gate, from Fishery Feed canal	11:15 hrs.	
2	Gushigata Lock Gate (water of SWF and DWF)	12:25 hrs.	
3	Water of Kestopore canal near lockgate at Ghaskhali (Kulti anchal)	12:05 hrs.	
4	Out let Point of Bamanghata Jalpath near new bridge	13:00 hrs.	
5	Out let Point of Uttar Hatgachha near Sardar para	13:30 hrs.	


RESULT

Parameters	1	2	3	4	5	Method
Conductivity $\mu\text{S}/\text{cm}$	869.50	3527.0	1007.0	1534	843.60	APHA Standard Methods 2510 B (2012), 22 nd edition
Salinity gm/kg	0	0	0	0	0	APHA standard Methods 2520D, (2012) 22 nd edition
DO mg/l	NIL	NIL	1.9	5.2	1.5	APHA Standard Methods 4500-OC, 22 nd edition (2012)
BOD mg/l	37.86	34.83	25.00	28.50	20.83	i. APHA Standard Methods 5210B ii. IS 3025 (part 44):1993, iii. CPCB Analytical techniques series LATS/4/87-88. (Validity of BOD determination at high temp. 3days at 27°C)
pH	7.21	7.53	7.44	8.24	7.76	APHA Standard Methods 4500 - H ⁺ B, 22 nd edition (2012)
Turbidity NTU	13.0	97.40	42.50	59.40	41.50	APHA Standard Methods 2130B (2012) 22 nd edition
TSS mg/l	10.0	14.0	20.0	36.0	<4.0	APHA Standard Methods 2540D (2012)
TS mg/l	390.0	1748.0	546.0	392.0	448.0	APHA Standard Methods 2540B (2012)
Alkalinity mg/l	252.0	360.00	248.00	152.0	188.00	APHA Standard Methods 2320 (2012)
COD mg/l	98.13	93.46	65.48	70.09	56.07	APHA Standard Methods 5220B&5220D (2012)
NH ₄ N mg/l	11.45	16.35	7.23	1.72	0.83	APHA Standard Methods 4500-NH ₃ B and 4500-NH ₃ D; (2012)
NO ₃ mg/l	0.88	1.51	0.35	0.79	0.07	APHA Standard Methods 4500-NO ₃ E; (2012)
NO ₂ mg/l	0.09	0.03	0.06	0.04	0.002	APHA Standard Methods 4500-NO ₂ B; (2012)
Total Nitrogen mg/l	14.16	20.64	8.92	2.95	1.29	APHA Standard Methods 4500-NO ₃ E; (2012), APHA Standard Methods 4500-NO ₂ B; (2012), APHA standard Methods 4500-N _{org} B, & 4500-NH ₃ C, 4500-NH ₃ D (2012) DIN EN ISO 11905-1
Total Phosphate as PO ₄ -P mg/l	0.24	0.05	0.05	0.01	0.05	APHA Standard Methods 4500- P B, 3030 K (digestion) & 4500-P D (determination); (2012)
TC MPN/100ml	1600000	80000	30000	300000	2200000	APHA Standard Methods 9221B&C (2012)
FC MPN/100ml	900000	23000	17000	170000	1700000	APHA Standard Methods 9221E&C (2012)

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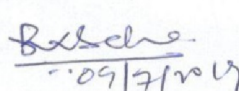
Annexure - A

ANALYSIS REPORT

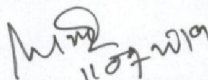
Sample supplied by: Mr. K.S Rahaman & Sanjay Mondal				Date of collection: 28/05/2019	
Name		Address:			
EAST KOLKATA WETLANDS MANAGEMENT AUTHORITY		Parnisampad Bhaban, 5 th floor, LB-2, Sector III, Salt Lake, Kolkata -700 106			
SAMPLE DETAILS					
(As per information submitted by: Mr. Tarak Das)					
SL.No.					Time of collection
1	Inlet point of Har Har Bheri ; near Bantala Lock gate, from Fishery Feed canal				12:00 hrs.
2	Gushigata Lock Gate (water of SWF and DWF)				13:15 hrs.
3	Water of Kestopore canal near lockgate at Ghaskhali (Kulti anchal)				12:55 hrs.
4	Out let Point of Bamanghata Jalpath near new bridge				14:10 hrs.
5	Out let Point of Uttar Hatgachha near Sardar para				14:40 hrs.

RESULT

Parameters	1	2	3	4	5	Method
Conductivity $\mu\text{S/cm}$	762.10	2860.0	1576.0	588.40	707.30	APHA Standard Methods 2510 B (2012), 22 nd edition
Salinity gm/kg	0	0	0	0	0	APHA standard Methods 2520D, (2012) 22 nd edition
DO mg/l	NIL	NIL	1.6	5.8	1.2	APHA Standard Methods 4500-OC, 22 nd edition (2012)
BOD mg/l	27.50	25.28	15.70	16.79	9.54	I. APHA Standard Methods 5210B ii. IS3025 (part 44):1993, iii. CPCB Analytical techniques series LATS/4/87-88. (Validity of BOD determination at high temp. 3 days at 27°C)
pH	7.20	7.56	7.51	8.05	7.93	APHA Standard Methods 4500 - H ⁺ B, 22 nd edition (2012)
Turbidity NTU	13.80	59.20	34.70	45.10	43.20	APHA Standard Methods 2130B (2012) 22 nd edition
TSS mg/l	38.0	60.0	220.0	72.0	102.0	APHA Standard Methods 2540D (2012)
TS mg/l	468.0	1714.0	924.0	466.0	522.0	APHA Standard Methods 2540B (2012)
Alkalinity mg/l	232.0	340.0	228.0	132.0	176.0	APHA Standard Methods 2320 (2012)
COD mg/l	60.19	55.55	41.66	50.93	32.41	APHA Standard Methods 5220B&5220D (2012)
NH ₄ N mg/l	17.45	23.35	11.20	1.11	0.52	APHA Standard Methods 4500-NH ₃ B and 4500-NH ₃ D; (2012)
NO ₃ mg/l	0.05	0.04	0.13	0.12	4.51	APHA Standard Methods 4500-NO ₃ ⁻ E; (2012)
NO ₂ mg/l	0.01	0.005	0.06	0.08	0.64	APHA Standard Methods 4500-NO ₂ ⁻ B; (2012)
Total Nitrogen mg/l	20.38	26.59	13.27	2.64	9.80	APHA Standard Methods 4500-NO ₃ ⁻ E; (2012), APHA Standard Methods 4500-NO ₂ ⁻ B; (2012), APHA standard Methods 4500-N _{org} B, & 4500-NH ₃ C, 4500-NH ₃ D (2012) DIN EN ISO 11905-1
Total Phosphate as PO ₄ -P mg/l	0.08	0.10	0.13	0.07	0.05	APHA Standard Methods 4500- P B, 3030 K (digestion) & 4500-P D (determination); (2012)
TC MPN/100ml	1600000	500000	130000	110000	220000	APHA Standard Methods 9221B&C (2012)
FC MPN/100ml	900000	220000	80000	80000	130000	APHA Standard Methods 9221E&C (2012)



Dr. Ram Krishna saha
Sr. Scientist



Ujjal Kr. Mukhopaddhyay
Chief Scientist



Annexure VI

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40.
Sd3 **21.01.**
 2019

W.P. 24980 (W) of 2018

Bhagirath Chandra Mandal.
Versus
The State of West Bengal & Ors.

Mr. S. Gangopadhyay
...for the petitioner
Mr. Alok Kr. Ghosh
Mr. Arijit Dey
...for the K.M.C.
Mr. Tapan Chakraborty
...for the respondent no.15
Mr. Joyak Kr. Gupta
...for the respondent nos. 2, 3 & 4.

The report as called for by the order dated December 20, 2018 filed in Court be taken on record.

Learned advocate appearing for the respondent no.2 makes over a copy of the report to the learned advocate appearing for the petitioner and the private respondent in Court.

The report filed by the respondent no.2 states that, the respondent no.15 is guilty of making a construction on a wet land and that appropriate proceedings have since been drawn up in respect thereof.

In such circumstances, the authorities will conclude such proceedings, in accordance with law, as expeditiously as possible and preferably, within four weeks from date. Needless to say that, the parties will afford a reasonable opportunity of hearing to the respondent no.15 and the petitioner in such proceedings. It is at liberty to hear such other parties and consult such other documents that it deems appropriate. The authorities will pass a reasoned order which it will communicate to the parties it has heard forthwith thereafter.



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W.P. No.24980(W) of 2018 is disposed of.

No order as to costs.

Urgent certified website copies of this order, if applied for, be made available to the parties upon compliance of the requisite formalities.

(Debangsu Basak, J.)



Annexure VII

**Government of West Bengal
Department of Environment**

East Kolkata Wetlands Management Authority
Pranisampad Bhavan, 5th Floor, LB-2, Sector-III, Salt Lake, Kolkata – 700 106

Reasoned Order

No. 115 -CTO/EN/450/2018-19

Date: 22/04/2019

Reasoned Order in pursuance with the Order dt 21.01.2019 passed by Hon'ble High Court at Calcutta in W.P. No. 24980(W) of 2018 Bhagirath Chandra Mandal-Vs-The State of West Bengal &Ors.

The Hon'ble High Court at Calcutta in its order dated 21.01.2019 in W.P. No. 24980(W) of 2018 directed East Kolkata Wetlands Management Authority (EKWMA) (respondent No. 2) to give the petitioner and respondent no. 15 an opportunity of hearing and dispose of the matter in accordance with the law.

In pursuance with the said Order of the Hon'ble High Court, the Chief Technical Officer (CTO), EKWMA called the hearing on 25.03.2018 in which the following persons were present.

For the petitioner:

1. Shri Bhagirath Chandra Mandal, the petitioner.
 2. Shri Prasenjit Naru, the son-in-law of the petitioner.
- Shri Bhagirath Chandra Mandal stated that respondent no. 15 Shri Sukumar Mondal started to construct an illegal building by filling up a "Nala" situated at RS Dag no. 639, Mouza Chowbaga, JL no. 3 under Police Station Anandapur (previously under P.S. Tiljola), Dist. South 24 Parganas.
 - Shri Bhagirath Chandra Mandal also stated that since after serving the notice dt. 14.01.2019 by the East Kolkata Wetlands Management Authority (EKWMA) to Shri Sukumar Mondal the construction work in question stopped, but demolition is yet to be done in compliance with the said notice. So, Shri Sukumar Mondal has violated the direction of the authority.
 - In reply to the question regarding RS Dag no. 631 and 657 of Mouza Chowbaga, JL no. 3 under P.S. Anandapur (previously under P.S. Tiljola), Dist. South 24 Parganas Shri Bhagirath Chandra Mandal said that he had nothing to say. He is only concerned with the alleged construction in question situated at RS Dag no. 639 at Mouza Chowbaga, JL no. 3.

For respondent no. 15:

1. Sadik Ali Dhali, Advocate, a representative of respondent no. 15 Shri Sukumar Mondal.
- Sadik Ali Dhali, Advocate submitted Vokatnama from Shri Sukumar Mondal, respondent no. 15.



- He stated that since receipt of the notice dt. 14.01.2019 from the EKWMA his client had stopped the construction work. But, regarding demolition of the illegal structure and restoration of the subject land, he sought time on behalf of his client to submit a written statement along with documents to support his claims, if any, within 2nd April, 2019.
- On 2nd April, 2019 respondent no. 15 submitted a letter dt. 01.04.2019 stating that the petitioner Shri Bhagirath Chandra Mandal *et al* had also made construction on plot no. 621 and 638, Mouza Chowbaga, P.S. Anandapur. But, only Shri Sukumar Mondal has been dealt with discriminatory manner.


The EKWMA, however, has observed that respondent no. 15 Shri Sukumar Mondal through the submitted letter dt. 01.04.2019 has tried to justify his making the illegal construction by violating the laws of the land. He alleged that Shri Bhagirath Chandra Mandal and many other persons of the locality have made constructions by violating the laws. The subject matter of Writ Petition No. 24980(W) of 2018, however, is limited to the illegal construction made by Shri Sukumar Mondal only. In its Order dt. 21.01.2019 the Hon'ble High Court at Calcutta directed the authorities to conclude the proceedings in accordance with law and to pass a reasoned order after giving an opportunity of hearing to respondent no. 15 and the petitioner.

The EKWMA has also observed that respondent no. 15 Shri Sukumar Mondal has failed to submit document(s) in support of his making the alleged illegal construction on the subject land.

In paragraph no. 10 of his letter to the Chief Environment Officer dated 01.04.2019 respondent no. 15 Shri Sukumar Mondal, however, has given an undertaking to demolish the illegal construction and restore the land in its previous position at his own cost.

The matter has been examined and it is decided to accept the admission of respondent no. 15 Shri Sukumar Mondal that the illegal construction be demolished and the subject land be restored to its previous status on his own cost within one month from the date of issue of this order.

All concerned may be informed accordingly.


22/4/2019
Member Secretary,

East Kolkata Wetlands Management Authority



Annexure VIII

List of Cases pending before the Hon'ble High Court at Calcutta & Hon'ble National Green, Tribunal relating to EKW

SL No	Case No and Year	Cause Title	Brief Particulars
Hon'ble High Court at Calcutta			
1	CPAN 2189/2013 WP No 24410(W) of 2007	CPAN2189/2013: Sankari Mondal & Ors Vs Prof Binay Kanti Dutta & Ors. WP 24410(W)/2007: Subal Chandra Mondal-Vs-State of West Bengal & Ors.	Removal of illegal construction in Mouza Chowbaga in the EKW.
2	CPAN No 428 of 2014. WP No 17841(W) of 2013.AST No 142 of 2013 with ASTA 84 of 2013.	Bikash Kumar Ray & Another-Vs-State of WB & Others	CPAN No 428: The EKWMA filed contempt petition for erection of a boundary wall of around 9 feet height without securing permission from EKWMA and also built permanent structure of two rooms inside the boundary wall.
3	WP No. 3317(W) of 2015	Kalyan Bharti Foundation & Another Vs. The Chief Secretary & Others	The petitioner asked to quash the Reasoned Order dt. 26.03.2012 issued by the EKWMA to remove the illegal fencing.
4	WP No. 11403(W) of 2015	Shyam Greenfield Developers Pvt Ltd & Another Vs. The Chief Secretary, Govt. of WB & Others	To set aside the reasoned order dt. 14.02.2014 issued by the EKWMA to remove the illegal fencing.
5	CRR No. 3413 of 2015	Sukti Lahiri Vs. State of West Bengal & Another	To quash all the orders passed by the ACJM, Baruipur with respect to Sonarpur P.S. Case no. 1327 of 2015 lodged on the basis of the complaint of the EKWMA for illegal construction of one-storey building.
6	WP No 20356(W) of 2016,	Jibendra Prasad Das-Vs-The State of WB & Ors	To cancel AICTE affiliation of Netaji Subhas Engineering College.
7	WP No 20867(W) of 2016	Jibendra Prasad Das Vs. State of WB & Ors	Removal of construction in Techno India Public School
8	WP 12096(W) of 2017	Saroj Kumar Mondal Vs. State of WB & Ors.	Against filling up of a water body in Mouza Dhalenda.
9	WP 541 of 2017	PUBLIC Vs. Union of India & Ors.	Against granting permission to fly-over over the EKW.
10	WP No. 14850(W) of 2017	M.K. Balakrishnan & Ors. Vs. Union of India & Ors	To refrain from converting wetlands and take measures to protect the wetlands.
11	WP 9223(W) of 2018	Leisure Country Club and Resorts Pvt Ltd Vs Union of India	Challenged EKW(C&M) Act of 2006 and action taken thereunder.
12	WP 11498(W)/ 2018	BK Roy Foundation & Anr Vs The State of WB & Ors	Direction upon EKWMA praying change of character of land which was rejected by EKWMA.
13	WP 25913(W)/ 2018	Sri Bibhuti Bhushan Mondal & Ors. Vs. The National Wetlands Committee & Ors.	To declare the land of the petitioner at Mouza Mukundapur as not a wetland.
14	WP 25791(W)/ 2018	Bhola Paik Vs. Union of India & Ors	Challenged EKW(C&M) Act, 2006 and action taken by EKWMA against petitioner thereunder.
15	WP 25803(W)/ 2018		
16	WP 25804(W)/ 2018		
17	WP 25809(W)/ 2018		
18	WP 25811(W)/ 2018		
19	WP 25813(W)/ 2018		
20	WP 25815(W)/ 2018		
21	WP 25817(W)/ 2018		



SL No	Case No and Year	Cause Title	Brief Particulars
Hon'ble High Court at Calcutta			
22	WP 25819(W)/ 2018	Bhola Paik Vs. Union of India & Ors	Challenged EKW(C&M) Act, 2006 and action taken by EKWMA against petitioner thereunder.
23	WP 25820(W)/ 2018		
24	WP 25823(W)/ 2018		
25	WP 2127(W)/ 2019		
26	WP 5074(W) of 2019	Ranjit Kumar Safui Vs. State of WB & Ors.	Direct the Authorities to stop private respondents from filling up a water body called Heder Bheri
27	WP 8462(W) of 2019	Salt Lake Fishworkers' Welfare Organisation & Anr Vs. CWRA & Ors	Unauthorized land conversions, solid waste management, discharge of effluents by leather tanneries.
28	WP 16751(W) of 2019	Sukumar Mandal Vs. State of WB & Ors	Unauthorized construction by filling up water body.
29	16799(W) of 2019	Nakul Sardar & Ors Vs The State of WB & Ors	Unauthorized boundary wall, construction by filling up water body.
30	WP 20251(W) of 2019	Insta Concretex Pvt Ltd & Anr Vs. The Union of India & Ors	Challenged EKW(C&M) Act of 2006 and action taken thereunder.
31	WP 16383(W) of 2019	Outdoor Advertising Association & Ors Vs. EKWMA & Ors	Restraining the EKWMA from giving any effect to the order no. 318/CTO/EN/018/2006-07 dt 13.11.2019.
32	WP 23341(W) of 2019	Vaidic Dharma Sansthan & Anr. Vs. The State of WB & Ors.	Challenged EKW(C&M) Act of 2006 and action taken thereunder.
33	WP 24268(W) of 2019	Sant Shri Asaramji Ashram Trust, Kolkata Branch Vs The State of WB & Ors	Refrian from demolishing the buildings raised by Asaram Ashram.
34	WP 4940(W) of 2020	Wander Land Regency Pvt Ltd Vs The State of WB & Ors	Revoking of a Notice issued by the EKWMA and to consider the case U/s 10 of the EKW (C&M) Act, 2006.
Hon'ble National Green Tribunal			
1	O.A. 18/2016	Bishnu PadaPakhira Vs. The Pollution Control Board of WB & Others	Unauthorized construction namely Urban Sabujayan in the EKW
2	O.A. 78/2016	Dhruba Das Gupta & Others Vs. MoEF&CC& Others	For protection of the EKW and for maintaining optimum level of wastewater flow into the EKW.
3	O.A. 146/2017	Leasure Country Club & Resorts Pvt Ltd & Anr Vs. The Union of India & Ors.	Against the Notice issued by the EKWMA for restoration of the subject land to its original character and to restore the water bodies.
4	O.A. 32/2019	Subhas Datta Vs. State of WB & Others	Detriment of the ecology of East Kolkata Wetlands.



Annexure IX

BE a Wetland Mitra**Together we can rejuvenate, conserve our wetlands****Name:** _____ **Gender : Male/ Female****Occupation:** _____**Contact Details:****Phone:** _____**Email:** _____**Address:** __________
_____**I am willing to commit _____ hours per month to work towards restoring/ rejuvenating the health of our wetland East Kolkata Wetlands****My areas of interest:**

Wetland Assessment/ surveys

☐

Awareness/ Mobilisation

☐

Bird surveys

☐

Monitoring

☐

Clean up drives

☐

Others (specify)

☐

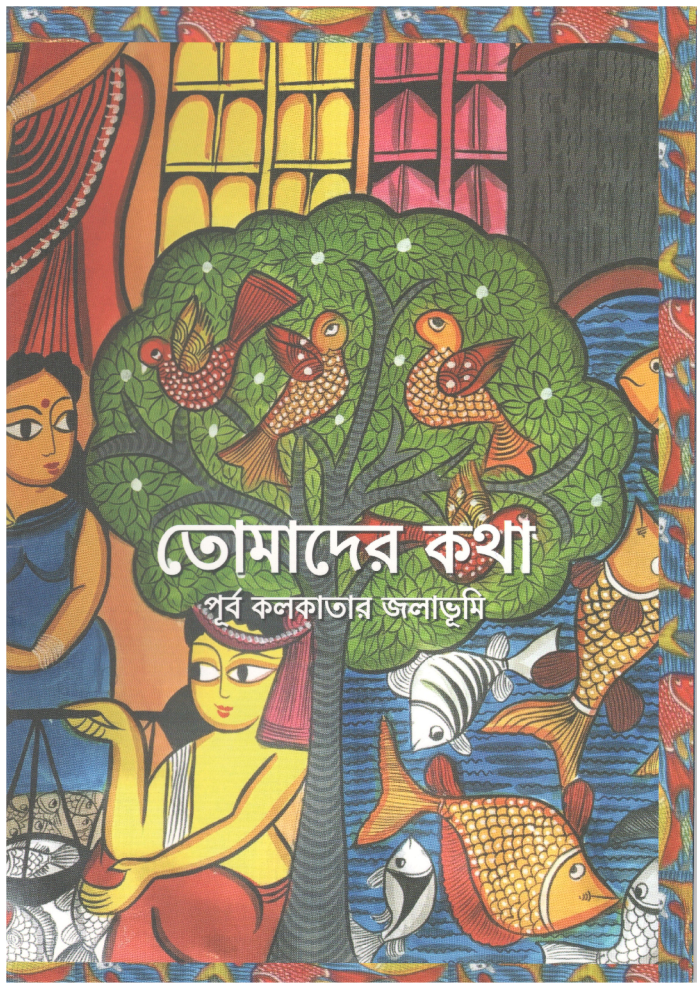
Signature



Wetland features of East Kolkata Wetlands



Restoration work within the East Kolkata Wetlands



Celebration of World Wetlands Day