

# C-PACT WATER BULLETIN

CPACT & WSP (Water Science Program) presents a monthly news bulletin of latest news from India and abroad on debates, concerns, and events related to water.

## *Wetlands: The Kidneys of our Landscape*

Moumita Karmakar and Pratik Umbarkar

**W**etlands are unique; they are our living heritage. Marked by standing water at least during some periods in the year, unique soil conditions and vegetation, they act as an ecotonal boundary between terrestrial and aquatic systems. Because of a wide range of hydrologic conditions, sizes, and locations, a legal definition has become a norm for the protection of wetlands. The ecological significance of wetlands includes the role they play in the global carbon cycle, hydrological cycle, nutrient cycle, trophic interactions, and in maintaining high species diversity. Often called “nature’s kidneys,” wetlands support millions of people by providing food, water, controlling floods and storm surges. With growing population, urbanization, environmental pollution and degradation, and global climate change, urban wetlands are under tremendous pressure.

Wetlands, especially urban wetlands, are among the most threatened water bodies in India. Urban wetlands can be referred to as coasts, estuaries, shallow lakes, water source protection areas, natural and artificial ponds, and sewage treatment systems within urban settings (Wang and Xianguo, 2007). In India, the first scientific mapping of wetlands was carried out by Space Applications (SAC, ISRO), Ahmedabad, during 1992-93 (Ministry of Environment and Forests, MoEF, Govt. of India) using remote sensing data from Indian Remote Sensing satellite (IRS-series). A classification system based on the Ramsar Convention was used, because there was no comprehensive inventory of wetlands. The entire country (including islands and union territories) was considered for the inventory and assessment of wetlands. Mapping was carried out on 1:50,000 scale. The areas of various wetland categories were estimated using GIS layers of wetland boundary, water-spread, aquatic vegetation, and turbidity. A total of 2,01,503 wetlands were mapped and 5,55,557 wetlands (<2.25 ha) identified. Although numerous wetlands have been identified in India, only 26 are Ramsar sites (Ramsar, 2013).

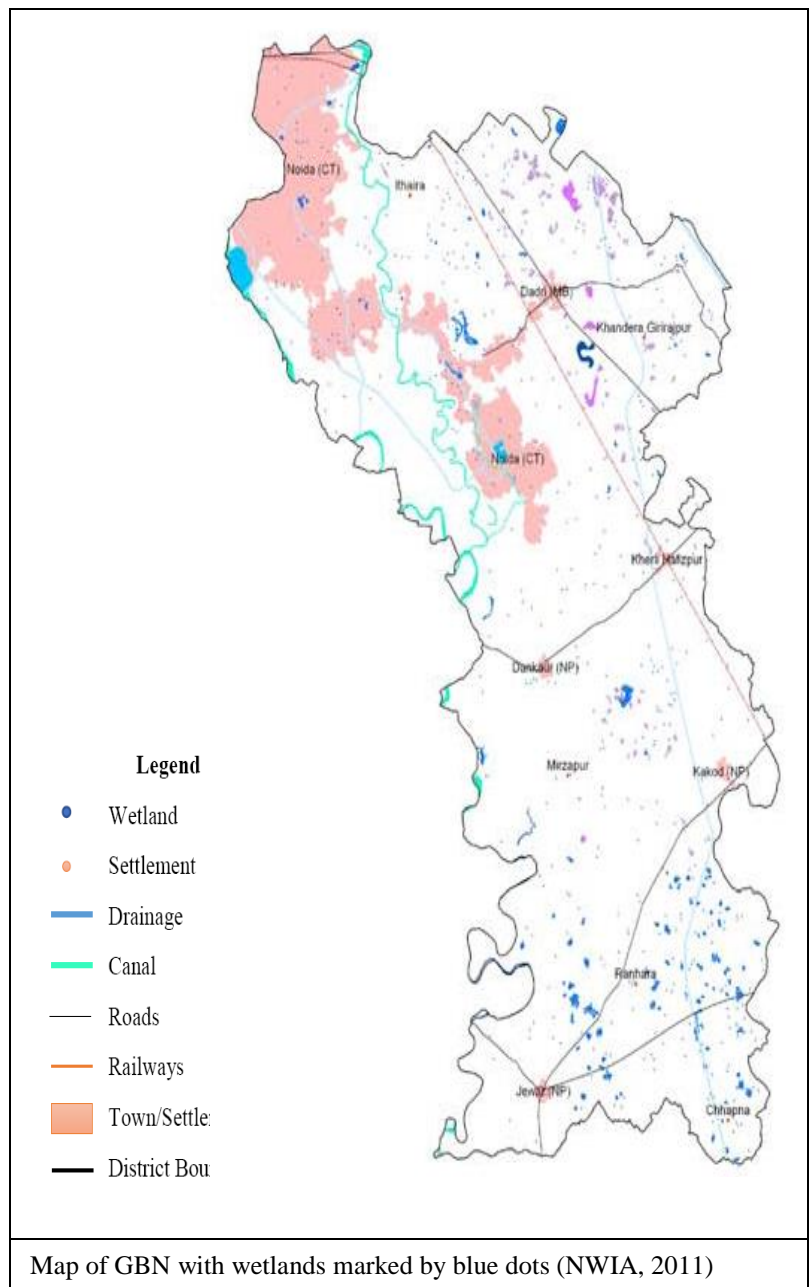
The Ramsar Convention (1971), an international [treaty](#) for the conservation and sustainable use of wetlands, adopted the following definition of wetlands in Article 1.1 of the Convention of Wetlands (Finlayson and Moser, 1991): *For the purposes of this Convention wetlands are areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish, or salt including areas of marine water, the depth of which at low tide does not exceed six meters. Article 1.2 of the Convention provides that wetlands may incorporate riparian and coastal zones adjacent to the wetlands, and islands or bodies of marine water deeper than six metres at low tide lying within the wetlands.*

A total 23,890 wetlands have been mapped and 97,352 smaller wetlands (smaller than 2.25 ha) identified in Uttar Pradesh (NWIA, 2011). Gautam Buddha Nagar (GBN) in Uttar Pradesh is home to several wetlands; approximately 4,153 hectares of wetland, natural and man-made. Many of them are spectacular (like Surajpur) habitats to birds, amphibians and reptiles and several herbivores ranging from rabbits to deer. Along with rivers and streams (24.87%), natural wetlands include lakes/ponds (17.29%), waterlogged areas (6.65%), and oxbow lakes. Man-made wetlands include waterlogged areas, reservoirs, and tanks/ponds. 702 small wetlands (<2.25 ha) were also identified (NWIA, 2011). The GBN forest department has listed 720 water bodies (2016), marshes, and semi-wetland patches in the district as wetlands, according to District Forest Officer K.K. Singh (2016, told to *Times of India*). Dhanauri, a wetland, was discovered by Mr. Anand Arya (a bird watcher); he proposed that the National Green Tribunal list it as a wetland. Dhanauri, a great habitat for the Sarus Crane, is under the jurisdiction of the Yamuna Expressway Industrial Development Authority.

The Water Science and Policy course in Shiv Nadar University, gives students the opportunity to understand and work towards knowledge and policy, including decentralized and participatory governance mechanisms for conservation of wetlands. As part of the course on Lakes and Wetlands, students conducted a field trip to different wetlands near Dadri, Rampur and Surajpur and found that environmental impact assessments of these wetlands, natural lakes or reservoirs are very important under the current context of development and environmental change. GBN wetlands could serve as a model system for long-term ecological assessment study which may be applicable on a larger regional, perhaps national scale. To conduct research there is a need for collaboration with the local development authorities, who have an economic and ethical obligation to ensure that our landscape has healthy functioning kidneys and life.

#### References

- 1) Finlayson, M., and M. Moser, eds. 1991. Wetlands. Facts on File, Oxford, UK. 224 pp
- 2) AC/EP/SA/ABHG/NWIA/ATLAS/34/2011
- 3) Ramsar Secretariate, 2013. The list of wetlands of international importance. The secretariat of the convention on wetlands. Gland, Switzerland.
- 4) Wang Jianhua, Lv Xianguo. 2007. The concept and functions of urban wetlands and wetland protections in China[J]. *Journal of Ecology*, 26: 555-560



## Latest News

**Over 490 of 1,123 samples of packaged drinking water non-conforming to food safety norms, LS told**

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**Environment department proposes to set up body to protect Delhi's wetlands**

Currently, the responsibility of preserving and restoring wetlands in the city lies with several agencies, including the Delhi Jal Board (DJB), Delhi Development Authority (DDA), Public Works Department (PWD) and the municipal corporations.



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**Water in major reservoirs of 10 states below 2017 levels: CWC**

Ten states have lesser water stored in their reservoirs when compared with levels in the corresponding period last year. The water level in reservoirs of these 10 states is also less than the average storage of last ten years around the same period, says the data released by CWC on December 27, 2018.



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**SAC approves Rs 186 cr project for rejuvenation of river Devika, Tawi**

The State Administrative Council (SAC) which met in Jammu on Friday under the chairmanship of Governor, Satya Pal Malik approved the proposal of the Housing & Urban Development Department for Implementation of the project namely "Pollution Abatement of River Devika and River Tawi at Udhampur Town" under the National River Conservation Plan (NRCP).



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**931 More Villages Declared 'Drought-Affected' In Maharashtra**

The Maharashtra government on Thursday, 3 January, announced another 931 villages in the state as "drought-affected", which will entitle them to several benefits and concessions.

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**Tamil Nadu Govt. opposes new dams at Mekedatu, Mullaiperiyar : Governor**

The Tamil Nadu Government on Wednesday strongly opposed the recent move by the Central Water Commission (CWC) giving clearance to Karnataka to prepare the Detailed Project Report (DPR) for constructing a reservoir at Mekedatu..

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## Academic news: scholarships

**Philomathia Trillium Scholarship**

Incoming international Ph.D. students will be eligible to apply for a Philomathia supported Trillium Scholarship. The scholarship is worth CAD\$40,000 per year for 4 years and will be awarded to an incoming student at McMaster University undertaking studies in water policy or water-based research.. [Read More:](#)



**Rotary Scholarships for Water and Sanitation Professionals**

The strategic partnership between The Rotary Foundation (TRF) and IHE Delft Institute for Water Education aims to tackle the world's water and sanitation crisis by increasing the number of trained professionals to devise, plan, and implement solutions in developing and emerging countries.



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**UWE Millennium Scholarship for International Students**

The University of the West of England, Bristol offers the Millennium Scholarship to international students who will be required to undertake an internship working within the International Office or other departments, and will also be required to undertake ambassadorial activity for the University throughout the duration of the course.



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## Conference/call for papers:

### ICSWRM 2019: International Conference on Sustainable Water Resources Management

The International Research Conference is a federated organization dedicated to bringing together a significant number of diverse scholarly events for presentation within the conference program. Events will run over a span of time during the conference depending on the number and length of the presentations.



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### Water Resources Management 2019

10th International Conference on Sustainable Water Resources Management

**7 - 9 May 2019**

Alicante, Spain



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### WaterEX World Expo

**February, 20-23, 2019**

**Bombay Convention & Exhibition Centre, Mumbai**



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## Course/ Training Seminar Workshop/Contest:

### Call for Content – IWA Water and Development Congress & Exhibition

**Colombo, Sri Lanka, 1-5 December 2019**



The IWA Water and Development Congress & Exhibition is the global event that brings together over 3,000 international water professionals to discuss, debate and present on water solutions for low and middle income countries.

The International Water Association calls for submission of content for the 5th edition of the Congress to take place in Colombo, Sri Lanka, 1-5 December 2019. [Read more:](#)

### Career as a Water Science Policy Professional



Water is an essential element of life as well as the ecosystem, we live in. Without it, life cannot be imagined on this earth. Freshwater comprises only 2-3% of total amount of water found on this earth. Thus this resource has to be used judiciously. According to UN World Water Report 2018, the global demand for water is increasing at the rate of 1% per year and it will continue to grow in future as well.

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### Upcoming Training & Workshops for Industrial RO Drinking Water Plants



To understand various water streams which are planned in a new manufacturing facility; business risks arising from water scarcity Effective water utilization and process optimization

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## Student Highlight

### M.Sc. Students (Water Science and Policy) conducting fieldwork in Surajpur wetlands (October 2018)



For any comments or queries please contact:

Dr. Kaynat Qazi, Water Programme, C-PACT (Email id: [Kaynat.qazi@snu.edu.in](mailto:Kaynat.qazi@snu.edu.in) Office phone: +91-120 2663 846)

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