



Wetland, New, Monitor

November - December 2017

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News brief on Wetland Birds, Butterflies, Wetland Restoration, Socio-economic survey of wetlands, Wetland Rules, Events, Wetland Pollution.



News on Wetland Birds

A bird atlas is an ornithological work that attempts to provide information on the distribution, abundance, long-term change as well as seasonal patterns of bird occurrence and make extensive use of maps. They often involve a large numbers of volunteers to cover a wide geographic area and the methods used are standardized so that the studies can be continued in the future and the results remain comparable.

Bird Atlas puts focus on wetlands. The Bird Atlas of the district prepared as part of the Kerala Bird Atlas (KBA) programme initiated by the Bird Count India highlights the need for conservation of wetlands and sacred groves as they support subsistence of birds. The atlas that was released on 12th November 2017 has found that the sacred groves of the midland in the district support a metapopulation of forest birds. Equally important are the wetland areas which still remain unprotected, it notes adding that 24% of species in the district subsist on these wetlands. Wetlands of Kattampally, Chempallikkundu and Ezhome should come under the protected area network; the atlas says adding that Kattampally wetland which is an Important Bird and Biodiversity Area (IBA) should be protected by declaring it as a Community Reserve. The efforts initiated by the Forest Department in this regard should be revived, the atlas recommends. The atlas authored by ornithologists C. Sashikumar and R. Roshnath was the outcome of a survey documenting the bird diversity in the district.

It is the third bird atlas to be prepared in the State as part of the KBA programme to be completed by 2020. The bird atlases of Thrissur and Alappuzha have already been released. The atlas features the distribution of each of the species with their photographs along with the map of the district showing where the species are seen and how abundant they are. The atlas also shows the seasonal changes in the population of each species spotted in the district. A total 255 species of birds were recorded during the Bird Atlas survey in the district. They account for more than half of the total species of birds found in the State. The atlas notes that out of these species, 45 species (17%) are migrant birds and 63 (24%) are wetland dependent. The major bird groups include 22 species of diurnal raptors, six cuckoos, six owls, nine woodpeckers and seven bulbuls. Nine species recorded during the survey were in the threatened category. They are Oriental



Darter, Black-headed Ibis, Steppe Eagle, Pallid Harrier, Nilgiri Wood-Pigeon, Malabar Pied-Hornbill, Grey-headed Bulbul, Broad-tailed Grassbird and Bilgiri Flycatcher.

The atlas also found that 12 species were endemic to the Western Ghats. The district also has 25 common birds that are widespread throughout the district, across the wet and dry seasons. They include Little Cormorant, Indian Pond-Heron, Rock Pigeon, Spotted Dove, Greater Coucal, White-throated Kingfisher, House Crow and Large-billed Crow. The atlas was released by District Collector Mir Mohammed Ali by handing over a copy to Divisional Forest Officer Sunil Pameedi. District Panchayat Standing Committee chairman K.P. Jayabalan and Kerala Biodiversity Board member secretary Dineshan Cheruvat were among those present.

Migratory birds started to arrive in Chilika Lake, Asia's largest brackish water lagoon. Major bird congregations have been spotted in the wetlands of the Nalabana Bird Sanctuary inside Chilika and Mangalajodi, a major village on the banks of the lake. Sushant Nanda, Chief Executive of Chilika Development Authority reported that low pressure area over the Bay of Bengal and heavy rain delayed the arrival of birds. Nalabana with 15.59 sq km area is hosting the highest number of migratory birds. Similarly, the wetlands of Mangalajodi have begun to fill up with lakhs of ruffs, godwits, plovers, sandpipers and migratory ducks. With 11.59 sq km of mudflats, Mangalajodi receives about 3 lakh birds during winter.

This year, Chilika has witnessed the arrival of 9,47,119 birds compared with 8,58,855 in 2016. As per bird census, 167 species of bird had arrived in Chilika in January 2017. Migratory birds fly across continents from Caspian Sea, Baikal Lake and remote parts of Russia, Mongolia and Siberia and flock to the marshy lands of the Nalabana Bird Sanctuary inside the Chilika Lake, which is spread across over 1000 sq. km. The Odisha government has announced a bird festival for the first time in January, showcasing the diversity of migratory birds and their numbers.

The gloomy winter landscape of the Kashmir Valley has come alive in myriad colours with the arrival of three lakh winged visitors from as far as Central Asia and Europe after arduous efforts by the Wildlife Department to restore their natural habitat. Tufted Duck, Gadwall, Brahminy Duck, Garganey, Greylag Goose, Mallard, Common Merganser, Northern Pintail, Common Pochard, Ferruginous Pochard, Red-Crested Pochard, Ruddy Shelduck,

Northern Shoveler, Common Teal, and Eurasian Wigeon are some of the most sighted birds in the wetlands of Kashmir. The birds start arriving in the Valley towards the first week of November as Kashmir presents them a comparatively hospitable habitat compared to the extreme freezing conditions in their natural habitats in Siberia, China, Japan and other countries in northern hemisphere. The floods in Kashmir in 2014 had threatened the winter escapade of migratory birds as the September deluge that year brought with it a layer of oil which settled over the water in the Hokersar wetland, causing enormous damage to the ecosystem.



Migratory birds frolic in Chilika Lake of Odisha

Source: The Hindu Dt.: November 23, 2017

The wildlife staff had to drain out the water with oily layer before letting in fresh streams to ensure that the birds do not face any difficulty in finding food. Noise pollution caused by rapid urbanisation around the wetlands, however, continues to put them off the migratory birds. To tackle the more obvious threat of poaching, the department has set up squads to maintain vigil around the wetlands. Besides Hokersar, the migratory birds flock the Wullar Lake and other wetlands like Hygam, Shallabugh and Mirgund in surrounding areas.

Grey-necked Bunting, Greater Spotted Eagle, Eurasian Cuckoo, and Lesser Sand Plover figure among the 147 species of birds sighted and listed during the Thiruvananthapuram Bird



Race 2017. As many as 25 migratory birds, including the Painted Stork, Eurasian Golden Oriole, and Asian Paradise Fly-catcher were also spotted from the seven pre-identified bird-rich areas in and around the capital during the day-long Bird Race held on 9th December 2017. A.K. Sivakumar, Coordinator, Bird Race and Senior Education Officer, WWF reported that the sighting of the Grey-necked Bunting at Punchakkari and Greater Spotted Eagle were the highlights of the Bird Race.

Organised by WWF-India with support from the Social Forestry Division of the Forest and Wildlife Department, the sightings were from seven sites, including Kallar-Ponmudi Forests with 77 species, Arippa (68), Bonacaud (55), Akkulam-Veli (25), Aruvikkara-Nedumangad (53), Punchakkari (56), and city area (51 species). The team that ventured into the forests of Kallar-Ponmudi could spot and list Black Eagle, Common Flameback, and many endemic species like White-bellied Flycatcher, Malabar whistling Thrush, and Malabar Trogon. The team that visited Arippa came across the Lesser Yellownappe, Blue-bearded Bee-eater, and a family of Asian-paradise Flycatcher which included male, female, and a sub-adult male, all together.

Team Aruvikkara-Nedumangad restricted their visit to the Aruvikkara dam and surrounding areas and recorded many common and migratory species. Eurasian Cuckoo was a surprise spotting and the team found that the Nedumangad market is still home to House Sparrows. Akkulam Lake, once a haven for birds and birders, was a great disappointment since only 25 species, including shore birds like the Lesser Sand-Plover, could be spotted from Veli Lake Estuarine Complex. Team Bonacaud recorded a heavy sighting of Red-whiskered Bulbuls with a count of more than 500. They were also able to sight and list forest birds such as Black Eagle, Crested Serpent Eagle, and Fairy Bluebird.

The team that explored the bird-rich areas within the city listed most of the waders, including many migratory ones from Kesavadasapuram wetlands. The museum-zoo was found to be a safe shelter for many birds like Oriental Darter, a bird included on the IUCN Red list, Asian Openbill, Cormorants, and many other common birds. Though birding in all sites was enthusiastic and interesting, Mr. Sivakumar said few disturbing observations regarding the management of wetlands also came up. The report compiled by WWF says Akkulam Lake was rather dry and polluted due to unscientific developments and land reclamation.



Grey-necked Bunting spotted during a bird survey in Thiruvananthapuram

Source: The Hindu Dt.: December 16, 2017

Lone great white pelican has a distinctive beauty to watch compared with the other migratory birds. Mingled with the thousands of winged guests is the lone great white pelican (*Pelecanus onocrotalus*) at Asia's largest freshwater lake, Kolleru Lake, offering a rare visual treat to bird watchers. In the past week, the feathered guest has been found spending the days with the grey pelicans and painted storks at the Atapaka Bird Sanctuary in the Kolleru Lake in Krishna district, earning its prey in the water body. Noticing its presence from at least 200 metres, forest department's boatman G. Suresh has been involved in studying its movements.

Physically, the white pelican which is also known as rosy pelican is almost double the size of the grey pelican. According to sanctuary officials, the single bird has been avoiding staying on the iron bunds erected in the sanctuary and hides behind the local bushes when visitors approach it on the boat.

P. Gracious, an authority on the Kolleru Lake said that the sighting of the white pelican is very rare in the Kolleru Lake. They have documented the white pelican in 2008 and 2013. In

2013, a pair of white pelicans was sighted at the sanctuary which is very rare in the wetlands in South India. Mr. Gracious said the bird could be treated as ‘Passing Migrant’ and must have missed its flock. He confirmed that the lone white pelican has never been seen breeding or nesting in the Kolleru Lake till date.



Seeking company: A Great White Pelican (at left) at Atapaka in Kolleru

Source: The Hindu Dt.: December 18, 2017

A rare bird “The Great Crested Grebe” was sighted at Coimbatore City Lake. City-based birding enthusiast Vijaykumar Krishnamurthy stated that it was a lucky sighting at Ukkulam Lake, near Semmedu village at Velliangiri Foothills, when he noticed the white underbelly and a peculiar head and bill, as the circling bird settled on the lake. As the bird came closer, he photographed it and shared it with fellow birders. He checked with Dr. Pramod, Senior Scientist at SACON, who confirmed that it was indeed the Great Crested Grebe.

Dr. Pramod confirmed that the bird was last sighted in Mumbai and Vishakapatnam. It’s a record for South Indian peninsula. Though most water birds fly away when you go closer, the Great Crested Grebe stayed on, completely unperturbed in their presence and they managed to get some nice close-up shots which helped in identifying the bird correctly. The Great Crested Grebe is a resident bird of the U.K. It breeds in Central Asia and migrates to Northern India for winter. Vijaykumar muses that there have been many sightings of this beautiful bird in the wetlands of Gujarat, Bihar, and UP. However, there has been no record of the bird in the South, especially in Tamil Nadu. May be this is a single individual, which wandered off from the flock

or lost its way. He added that while the resident little grebes (small in size), are often seen in wetlands in India, the Great Crested Grebes are much larger and rarely seen in Tamil Nadu.



The Great Crested Grebe

Source: The Hindu Dt.: December 22, 2017

Source:

- <http://www.thehindu.com/todays-paper/tp-national/tp-kerala/bird-atlas-puts-focus-on-wetlands/article20423481.ece>
- <http://www.thehindu.com/news/national/other-states/migratory-birds-start-arriving-in-chilika/article20670274.ece>
- <http://www.thehindu.com/todays-paper/tp-in-school/three-lakh-migratory-birds-throng-kashmir-valley/article21041695.ece>
- <http://www.thehindu.com/news/cities/Thiruvananthapuram/bird-race-spots-147-species-in-capital/article21801325.ece>
- <http://www.thehindu.com/todays-paper/tp-national/tp-andhrapradesh/a-rare-guest-at-kolleru-lake/article21828900.ece>
- <http://www.thehindu.com/sci-tech/energy-and-environment/the-great-crested-grebe-stops-by-coimbatore/article22258043.ece>



Report on Butterflies

The Tamil Nadu Butterfly Society stated that wetlands in Coimbatore offer the perfect habitat to butterflies. The wetlands are host to a range of other kinds of butterflies like African Marbled Skipper, spotted Pierrot or the Little Tiger Pierrot, the Blue Mormon, etc. A five-year study on butterflies of Coimbatore Wetlands by a team of Tamil Nadu Butterfly Society (TNBS) comprising Theivaprakasham Hari, Nishanth CV, Gopalakrishnan, Viswanathan, Ramanasaram Hari, and A. Pavendhan, puts the spotlight on conservation of wetlands. They reported that wetlands are a last resort for a number of butterfly species. For example, the Common Three Ring is dependent on grass, its host plant. But, as the clearance of the grass lawns in to buildings their population decreases.

From Ukkulam (at Siruvani foothills) to Sular Lake, there are more than 30 wetlands, fed by the Noyyal. The butterfly study was done on wetlands that supported farming activities in Singanallur, Ravuthur Road, Pallapalayam, Kannampalayam, Sular, Achankulam & Kalapatti on the east and Vedapatti, Kolarampathy, Perur, Senkulam, Ukkadam, and Ukkulam on the west. A total of 93 species of butterflies were recorded. The total number of species in the Tamil Nadu Butterfly Checklist stands at 324. Singanallur with 64 species and Achankulam & Irugur with 60 species emerged as the hotspots.

The Red Spot butterfly which is not common in the city surprised butterfly watchers at Irugur or Ravuthur Road Bypass Lake. The lake spread over 60 acres is fed by the Noyyal Anicut channel. The excess water feeds the nearby Achankulam. The lake's running bund of one km supports vegetation and there is farming activity in the vicinity. A total of 59 butterfly species were recorded at this lesser-known lake. Special sightings also include Guava Blue, Red Flash, Acacia Blue and Peacock Royal.

A pair of black wings interspersed with a row of yellow marks that resemble a joker's grin got the butterfly its name - joker. It can be easily sighted at Singanallur, Achankulam and Ravuthur Lake. The TNBS team sighted over 20 Common Silverline butterflies at Vedapatti. The Tailed Palm Fly is also seen around the wetlands that have coconut trees and palm trees (host plant of Palm fly) on their periphery. Other notable species include Sailors, Black Rajahs, Bush browns and Evening Browns.

Ukkulam reported the Cornelian and Royals, the not-so-rare butterflies but interesting nevertheless. Other species are the Striped Albatross, Gull and Pioneer, Salmon Arab, both small and large(it gets its name from its wings that are the colour of a salmon), and good numbers of Crimson-tips, Orange-tips (Small, Plain, Yellow, White and Great) from the Yellows and Whites family of butterflies called Pieridae.



Gomalia elma (Trimen, 1862)
African Marbled Skipper



Tarucus balkanicus (Freyer, 1844)
Little Tiger Pierrot



Zesius chrysomallus (Hübner, 1819)
Redspot



Byblia ilithyia (Drury, 1773)
Joker

Source: The Hindu Dt.: November 27, 2017

Source:

- <http://www.thehindu.com/sci-tech/energy-and-environment/wetlands-in-coimbatore-offer-the-perfect-habitat-to-butterflies-says-the-tamil-nadu-butterfly-society/article20976964.ece>

Report on Perur Chettipalayam Tank

The move to fell the trees at Perur Chettipalayam tank has been dropped after environmentalists expressed concern over the move as it would destroy the habitat of several native and migratory birds. A senior official of the Forest Department reported that the move was dropped as the department was convinced the trees provided a habitat for birds and various living organisms. They added that the trees at plantations around the Vellalore tank will be axed in the coming days though the auction is yet to take place for felling around 1,000 trees around the Vellalore tank.



A view of the Perur Chettipalayam tank in Coimbatore, which is home to several species of native and migratory birds.

Source: The Hindu Dt.: November 23, 2017

Official sources said the two plantations at Vellalore had *acacia nilotica* trees in large numbers, planted under social forestry initiative for the need of local people. Hence, there was no objection to felling these. They added that the tanks were under the control of the Public Works Department and, therefore, the Forest Department was not the sole decision-making authority. As per a survey done by Salim Ali Centre for Ornithology and Natural History on 12th January



2011, 1,192 wetland birds and 1,807 associated birds of 57 species were spotted at Vellalore tank, and 88 wetland birds and 48 associated birds of 18 species at Perur Chettipalayam tank.

Source:

- <http://www.thehindu.com/news/cities/Coimbatore/trees-at-perur-chettipalayam-tank-will-not-be-felled-forest-dept/article20670374.ece>

Report on Wetland Restoration

The coastal wetlands in Kerala are set to assume a frontline role in the battle against climate change. Over the last one year, 200 hectares of wetlands in four districts have been restored for integrated farming, in the first phase of a centrally sponsored project to build resilience to climate change and enhance the adaptive capacity of vulnerable communities and ecosystems. The Rs. 25-crore project taken up by the Agency for Development of Aquaculture (ADAK) under the Department of Fisheries seeks to restore and manage a total of 600 hectares of coastal wetlands for carbon sequestration and production of paddy and fish. These include 300 hectares of Pokkali wetlands in Thrissur, Ernakulam, and Alappuzha districts and 300 hectares of Kaipad wetlands in Kannur. It is the only project in Kerala to have been approved for assistance from the National Adaptation Fund for Climate Change (NAFCC). The rotation of rice farming and fish aquaculture is expected to provide more income for farmers and local communities, improve land use efficiency, and minimise land degradation.

The four-year project involves the construction of earthen bunds along the margin of rivers and backwaters and along the periphery of paddy polders to withstand sea level rise, floods, and tidal surges triggered by global warming and climate change. Sluice gates are provided to regulate the water level and facilitate fish farming while bio-fencing would protect the bunds from damage due to heavy rain and flooding. The NABARD-monitored project estimates an annual production of 1,500 tonnes of paddy and 2,250 tonnes of fish from the 600 hectares of coastal intertidal wetlands, generating total revenue of Rs. 24.75 crore. It would also generate 1,08,000 man days of employment every year, of which 43,200 would be for women.



Source:

- <http://www.thehindu.com/todays-paper/tp-national/tp-kerala/restoring-wetlands-for-climate-resilience/article20608548.ece>

News on Socio-economic Survey of Wetlands

Scientists and members of the Salim Ali Foundation Dr. V.S. Vijayan and Lalitha Vijayan, called for a socio-economic survey of the wetlands in the city to increase conservation efforts. The scientists were speaking at a meeting organised by the Centre for Urban Biodiversity Conservation and Education (CUBE) near Singanallur Lake to discuss about conservation of lake and biodiversity.

Vijayan said Singanallur Lake provides annual services of around Rs 93.94 lakh, and if economic and emotional values of lakes were calculated, people would understand the importance of their conservation. He added that they would submit a tentative management plan of the urban lakes to the government and propose methods to protect lakes as heritage sites. The Singanallur Lake was observed for two days and some previous reports were also studied. There are various agricultural fields around the lake that use a lot of pesticides and chemicals. On the other side, there are four inlets through which sewage water enters the lake which needs to be stopped. Lalitha Vijayan said they will meet city corporation officials to submit a management plan that will have an action plan for the next year. The scientists said the lakes provide economy to fishing and farming communities and other activities. Trees and medicinal plants near the lake generate a lot of revenue. Calculation of the revenue and subsequently forming a report will aid in conservation efforts. Volunteers said that the flora around the lake, more invasive species was found which should be manually removed and replaced with native species.

Vinny R Peter, a research scholar and member of CUBE, said as per public works department records, lake water was used for drinking purposes as well. The water is contaminated due to pollution. Vijayan said organic farming should be implemented around the lakes and they should be declared as biodiversity heritage site to ensure that they are protected. He added that norms should be laid out in such a way that targeted fishing is carried out to



remove the invasive fish species such as African catfish. They said if the government and the environmentalists work together, lake restoration could become easier.

Source:

- <https://timesofindia.indiatimes.com/city/coimbatore/scientists-call-for-socio-economic-survey-of-wetlands-in-city/articleshow/61789100.cms>

News on Wetland Rules

Earlier this year, a judgment by the Uttarakhand High Court, stating that Ganga and Yamuna rivers are “living entities”, captured the national imagination. It is worth noting that wetlands, the other major water-based ecosystem apart from rivers, are at a moment of policy transition in the country. This year, a new legal framework for wetlands was passed, the **Wetland (Conservation and Management) Rules, 2017**, replacing the earlier Rules of 2010. Also this year, the Supreme Court passed an order directing States to identify wetlands in the country within a stipulated timeframe.

The 2017 Wetland Rules have been criticised for doing away with strong wetland monitoring systems and omitting important wetland types. At the same time, the Supreme Court order directs States to come forward and notify wetlands.

The 2010 and 2017 Rules for wetlands both emphasise that the ecological character of wetlands ought to be maintained for their conservation. ‘Ecological character’ refers to processes and components which make the wetland a particular, and sometimes unique, ecosystem. For example, as lagoons like Chilika (Odisha) and Pulicat (Tamil Nadu/Andhra Pradesh) are characterised by a mix of saline and fresh water, the flows of each type need to be maintained; river flood plains contain wetlands that require conservation so they can re-fuel the river with fish and other aquatic life during flooding.

In the 2010 Rules, some related criteria were made explicit, such as natural beauty, ecological sensitivity, genetic diversity, historical value, etc. These have been omitted in the 2017 Rules. There are a few reasons why this is problematic. First, there are multiple interests



around wetlands. Multiple interests also have governance needs, and this makes it absolutely necessary to identify and map these multiple uses. Leading on from this, and second, it is crucial to identify ecological criteria so that the wetlands' character can be maintained. The key to wetland conservation is not just understanding regimes of multiple uses – but conserving or managing the integrity of the wetland ecosystem. Finally, restriction of activities on wetlands will be done as per the principle of 'wise use', determined by the State wetland authority. Whether wise use will include maintaining ecological character remains to be seen. Under the new Rules, no authority to issue directions, which are binding in nature to desist from any activity detrimental to wetland conservation, has been prescribed to State wetland authorities.

Salt pans are an example how one use (of making salt) has trumped the other (of environmental balance). Salt pans as 'wetlands' have been omitted from the new Rules. They were identified as wetlands in the 2010 Rules, as they are often important sites of migratory birds and other forms of biodiversity. The omission in the 2017 Rules suggests that while salt pans do exist as wetlands, they do not require any conservation or ecological balance. The inference can also be that it would be acceptable to tip the environmental balance or integrity of such a wetland, which could lead to damage and pollution.

Deepor Beel – Case Study

The issue of wetlands being multiple-use areas — and subsequently being abused due to clashes of interest — found centre-stage this year with the observations of the National Green Tribunal (NGT) in the case of Deepor Beel.

Deepor Beel is a Ramsar site and a part of it is also wildlife sanctuary in Guwahati, Assam. ('Ramsar Sites are designated because they meet the criteria for identifying wetlands of international importance.') This wetland harbours a wide variety of biodiversity, and also suffers from intense man-made pressure – the city's municipal waste is dumped close to the Beel. Large, meat-eating storks (Greater adjutant storks) are ironically found eating from the mountains of garbage at the site. Potential impacts of contamination or poisoning from the garbage are still unknown. This January, 26 storks died. The fact that Deepor Beel exists as a wetland does not prevent garbage dumping; this is a fate faced by many wetlands. The NGT's observations on Deepor Beel are interesting and symptomatic of what is happening in several wetlands. In an



inspection done by the judicial member of the Tribunal, it was noted that waste was being dumped “not beyond the site but within it,” and “demarcations are made by drying out areas or cutting off water sources”. These are classic ways of killing a wetland and turning it from a wet to a dry ecosystem; or from a lake to a garbage dump or cesspool. The Tribunal has now asked for the “traditional” spread of the wetland.

Given all the modern uses of wetlands, or the use of the wetland only for its land, looking at traditional cartography may be one way to understand catchments of wetlands. It may also be a way of restoring some modicum of ecological character, identity or ‘rights’ to wetlands, as the river judgment suggested. There are challenges ahead in identifying wetlands – multiple and competing use is just one of them. Understanding the historic spread and ecological character will be an important bulwark for the way forward.

Source:

- <http://www.thehindu.com/opinion/op-ed/reconsider-the-rules/article22085813.ece>

Report on Wetlands Event

AARDE Foundation organises a wetland awareness workshop in Pulicat from January 6 to 9 for college students and environment enthusiasts. The four-day workshop includes activities like wetland bird identification, marine life observation and built-environment documentation exercises. The event is organised to bring scientific awareness and get experiential learning on very important brackish water body of South India, according to Xavier Benedict, founder trustee of AARDE Foundation. The participants will be taken out for field activities like identification of wetland birds. It also includes a tour in search of the heritage of the Buckingham Canal.

Source:

- <https://timesofindia.indiatimes.com/city/chennai/wetland-awareness-workshop-to-be-held-in-pulicat/articleshow/62073097.cms>



News on Wetland Pollution

There was a time when Bengaluru was referred to as ‘Kalyananagar’ (the city of lakes) and the ‘City of thousand lakes’. The loss, present status, cause for the deterioration, and flora and fauna thriving are main concern of lakes of Bengaluru city. It was to ascertain these answers that the Karnataka Lake Conservation and Development Authority (KLCDA) commissioned a two-year, nearly Rs. 1.5-crore investigation through Environmental Management & Policy Research Institute (EMPRI). The EMPRI reveals a graver threat to the lakes. Until now, the Karnataka State Pollution Control Board (KSPCB) would monitor 67 lakes every month. During a similar period last year, the KSPCB data showed that 53.8% of their monitored lakes were in grade E and the remaining in Grade D. But, under the Water Quality Index, which lists quality under two categories, a staggering 98% were ‘unsatisfactory’ while just 2% were satisfactory (the six lakes are Nagawara, Sankey, Lalbagh, Avalahalli, Chokkanahalli and Bhimmanakuppe).

According to a study the majority of the lakes in Bengaluru metropolitan area are in deteriorated condition and unfit for direct human consumption. The EMPRI tested samples for 14 parameters in their state-of-the-art water analysis laboratory established on their premises for the project. The report lists out the primary causes of pollution: whether it is direct, identifiable sources or indirect sources where the pollutant cannot be narrowed down. Of the major direct pollutants, solid waste was found to be the most significant, affecting 44.5% of waterbodies, with burning of waste seen in 33 lakes. Distressingly, waste included batteries and CFL bulbs, which are hazardous wastes. A third of the lakes also see construction debris, which the report notes not only clogs drains and decreases storage capacity of lakes, but could also lead to leeching of harmful paints and chemicals. Other waste found was agriculture processing by-products, poultry waste, including offals and other organic material that lead to an increase in vermin and insect population and reduces dissolved oxygen in lakes, as well as biomedical and industrial waste of ash, fibres and granite dust. In indirect sources, sewage was found to be flowing directly into 29% of the water bodies. Run-off from agriculture fields, road dust or leeching fuel from washing cars, phosphorus-based detergents from washing clothes (in 30% of lakes), soil excavation, sand extraction and stone quarrying were the other concerns reported.



Poison overload: Waste found in Bengaluru lakes included batteries and CFL bulbs

Source: The Hindu Dt.: November 20, 2017

Debris continues to be dumped by the side of lakes, major roads or in empty plots. A pointer to the prevalence was seen in the report by Environmental Management & Policy Research Institute (EMPRI), which showed that of the 691 water bodies studied, one-third were choked with construction debris. The report said that dumping of construction waste leads to clogging of drains and increases silt in water bodies. An example of this can be seen in the once thriving wetland between Kalkere and Margonadanahalli Lake, which is now covered in mounds of debris. Another indication is the amount of waste entering the city's sole processing plant, Rock Crystals in Chikkajala. Rajesh Korah, Managing Director, Rock Crystals stated that they have capacity of 1,000 tonnes daily, but get only 80 tonnes.

Source:

- <http://www.thehindu.com/todays-paper/tp-national/tp-andhrapradesh/grave-threat-faces-bengaluru-lakes/article20557927.ece>
- <http://www.thehindu.com/todays-paper/tp-national/tp-karnataka/dumping-in-lakes-remains-a-problem/article21375447.ece>