

# Water Bird Diversity at the Tanks of North Bangalore

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## ***Introduction***

Wetlands are lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface, or the land is covered by shallow water. Though in the past these areas were considered unproductive and unhealthy “wastelands”, over the past two decades there has been a growing awareness of their value. Wetlands are not only a source of food and fuel to the numerous communities dependent on them for subsistence but are also of immense importance. Urban wetlands through the ages have been the lifeline of most cities in India. They were preserved and looked after by the people as their main source of water supply for drinking and irrigation. These wetlands are found all over the country and are either natural or built by people. Over the years, they have gradually depleted, leading to a number of problems in urban areas such as flooding, water scarcity and water logging.

Karnataka State had about 44,000 man-made wetlands constructed over centuries beginning with the Vijayanagara Dynasty, of which there are only 36,969 wetlands. Once critical resources for supporting paddy and other irrigated crops, especially in the Maidan areas, these wetlands had bad times with the coming in of large-scale irrigation projects over the last century. Most of these tanks were haven for resident as well as migratory water birds and other dependent birds. Bangalore alone had 400 tanks but their rapid degradation over the last three decades has left only 130 tanks, of which only 80 are in good condition. In spite of these, there are quite good number of winged visitors arriving to most of these tanks during winter.

## ***Materials and Methods***

The water bird census was being conducted at the respective tanks between 7 am and 10 am. The numbers of these birds were counted using binocular and spotting scope.

## ***Survey programme***

Every year annual water bird count is conducted between 5<sup>th</sup> and 26<sup>th</sup> of January (as most of the migratory birds would have already arrived during this period) to understand the bird migration, number of birds arriving, change in the arrival of bird species and the tank condition. This would give a broad picture on the current condition of the tanks and the dependent birds. The annual water bird count was being conducted by our group in

the tanks of North of Bangalore since five years. About 11 tanks that are situated in the North of Bangalore were considered for the water bird census. Ardeshanahalli, Doddatumkur, Hebbal, Hesaraghatta, Jakkur, Kolthur, Madhurekere, Nagavara, Puttenahalli, Singnayakanahalli and Yelahanka were the tanks spread over the north of Bangalore with varied uniqueness in terms of bird diversity and problems.

These tanks were surveyed documenting the tank condition, other activities in the tank region, the water birds and the water dependent birds along with their numbers.

### **Results and discussion**

From the year 2001 the water birds were in good number in all the tanks as they were with sufficient water and good fish population too. About 42 species of water birds and water dependent bird species were documented during the census. In Hesaraghatta tank alone, about more than 2000 water birds of 29 species were documented. It was painful to notice about 10 bird traps at the Hesaraghatta tank bed for trapping White necked and Painted Storks. The nearby villagers explained that atleast 10 to 15 storks were poached every week during their arrival and the meat were sold in local market. Later, we destroyed these traps and informed the Forest officials to take strigent action against the poachers. Hebbal and Puttenahalli tanks also harbored about 40 species of water birds totaling to more than 400 individuals respectively. Totally more than 5000 birds were documented each year from all the 11 tanks of north Bangalore.

But in the year 2004, due to acute drought, seven of these eleven tanks were in a bad shape being totally dried up. These dried tanks were used for grazing cattle and temporary vehicle parking place! The winged visitors had to be dependent on the remaining 4 tanks (Puttenahalli, Nagavara, Madhurekere and Hebbal) that had little water. Puttenahalli tank housed lot of birds including Painted Storks (*Mycteria leucocephala*), Open-billed Storks (*Anastomus oscitans*) and a few Spot-billed Pelicans (*Pelecanus philippensis*) in addition to many other water birds. Despite being a drought year, this water body had water, thanks to the efforts of Lake Development Authority in taking necessary steps to conserve water at this lake. Nagavara Tank that was earlier dry owing to the desiltation programme, now had water and attracted many water birds. Previous year, Madhurekere had about 190 Painted Storks and other birds such as Spoon Bill (*Platalea leucorodia*), White Ibis (*Threskiornis melanocephalus*), Grey Heron (*Ardea cinerea*), Black Winged Stilt (*Himantopus himantopus*), Sandpiper, River Tern (*Sterna aurantia*), Pin-tailed Duck (*Anas acuta*), Spot-billed Duck (*Anas poecilorhyncha*) and others was bone dry. It was disheartening that there were no Egret or even Pond Heron. Hebbal Tank was as usual rich with Pin Tailed Duck, Spot-billed Duck, Common Pochard (*Aythya ferina*), Garganey Teal (*Anas querquedula*), Sandpiper, Black Winged Stilt, River Tern, Grey Heron, Purple Heron (*Ardea purpurea*) etc. Jakkur Tank had interestingly Grey Heron, Spot-billed Duck, Pin-tailed Duck, Common Pochard, Egret, etc. The last one, which we surveyed, was Hesaraghatta Tank, which was having good amount of water last year and housed a lot of birds was now completely dry. The locals opined that the lake was totally dry for the first time. In the year 2003, we could observe huge number of White-necked Stork (*Ciconia episcopus*), Painted Stork, Grey Heron and other water birds in good number.

The year 2005 was fair enough for the winged visitors as the tank condition were better with sufficient water, and thus getting back most of the birds to the garden city. Traditionally community based organizations were protecting the catchments, and of regular maintenance including desilting these tanks. With lower population densities and little industry, pollution was no threat, nor had many exotic weeds been introduced. Many pressures on land have led to encroachment on tank beds. The famous Dharmambudhi tank of Bangalore has been drained to make

Majestic Bus Stand. Such kind of ongoing changes in and around most of the tanks of Bangalore will definitely block the water draining pathways, which might in turn result in water inundation and flooding at such areas in future. The tanks have become sinks for sewage and industrial wastes. Exotic weeds have come to thrive in the organically enriched waters promoting drying up of the tanks. This process of degradation of wetlands has affected many elements of biodiversity as well.

### **Conclusion**

- ⌘ Percent of weed coverage in the lakes to be ascertained.
- ⌘ De-weeding of water hyacinth (*Eichornia crassepis*) to be carried on war-footing basis in avian rich lakes such as Hebbal, Puttenahalli, Nagavara, Madivala, etc.
- ⌘ Constant patrolling in all the lakes to minimize poaching of birds. Eg: Hesaraghatta Tank.
- ⌘ Re-trace the water draining pathways, map them and provide the lost links.
- ⌘ Clear the already encroached areas by providing the alternatives and make the water draining points free from disturbance.
- ⌘ Alternative measures to divert the inflow of effluents.
- ⌘ Regulate the tourists and ban use of plastics in and around the tank area.
- ⌘ Afforestation programme to be taken by planting native species such as Tamarind, Pongamia, Neem, Figs, Mango, etc.
- ⌘ Install pictorial depiction of prominent birds found in the vicinity of the lakes along with the bi-lingual checklists of all birds (Resident/Migratory) found in the vicinity and update them every six months.
- ⌘ Regulate boating hours and the area covered by the boats during winter.
- ⌘ Provide dustbins at many places with in the vicinity and remove the garbage periodically.
- ⌘ Encourage nature lovers and bird watchers.

### **Acknowledgments**

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### **Checklist of bird species recorded during the survey:**

1. Little Grebe            *Tachybaptus ruficollis*
2. Great Cormorant      *Phalacrocorax carbo*



23. Common Moorhen *Gallinula chloropus*
24. Purple Moorhen *Porphyrio porphyrio*
25. Common Coot *Fulica atra*
26. Pheasant-tailed  
Jacana *Hydrophasianus*
27. Black-winged Stilt *Himantopus himantopus*
28. Red-wattled Lapwing *Vanellus indicus*
29. Black-tailed Godwit *Limosa Limosa*
30. Marsh Sandpiper *Tringa stagnatilis*
31. Common Greenshank *Tringa nebularia*
32. Common Sandpiper *Actitis hypoleucos*
33. Little Ringed Plover *Charadrius dubius*
34. River Tern *Sterna aurantia*
35. Lesser-pied  
Kingfisher *Ceryle rudis*
36. Small Blue Kingfisher *Alcedo atthis*
37. White-breasted  
Kingfisher *Halcyon smymensis*
38. Paddyfield Pipit *Anthus rufulus*
39. Yellow Wagtail *Motacilla flava*
40. Grey Wagtail *Motacilla cinerea*
41. White Wagtail *Motacilla alba*
42. Large Pied Wagtail *Motacilla  
maderaspatensis*

*chirurgus*

***Reference***

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