

## **Theme 7: Lakes, rivers, estuaries: water quality, biotic resources, sustainable management**

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### **WATER QUALITY STATUS OF PAKHAL LAKE IN WARANGAL DISTRICT, ANDHRA PRADESH, INDIA**

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Pakhal lake is situated about 70 km from Warangal city, This huge man -made lake is enveloped by forested hills. The lake has great historical importance constructed by 1243 AD of Ganapathy Deva. It is located between Latitude  $17^{\circ} 42 \frac{1}{2}^{\prime}$  and  $18^{\circ} 10^{\prime}$  North between Longitude  $79^{\circ} 55^{\prime}$  East. Set around the lake is spread over an area of 900 sq km. Pakhal Wild Life Sanctuary is one of the oldest sanctuaries declared in dt 4/3/1952 by Hyderabad Government because of its rich biodiversity with more than 200 species. The forests include mixed dry deciduous type with Teak and its associates like Thiruman, Maddi, Tuniki (beedi leaf), Bamboo etc., While the fauna includes several endangered animals like Tiger, Sloth Bear, Four Horned Antelope Chinkara, Wolf, Panther, Hyena etc., birds like snipe blue green Pigeon Partridges, Quail are also observed in the forest. The climate is usually hot around the year, the temperature often reaches  $46^{\circ}$  during summer. The principal rainfall is South West monsoon. The annual average rainfall is about 1500mm Improvement in protection of fodder & water resources has been the prime focus of the management for the Biodiversity Conservation of the protected area. The sanctuary forms partly the catchment for two drainages, one in to the Godavari River through Laknavaram Tank and the other join Krishna River through Maner tributary. Agriculture, Aquaculture Drinking water supply (revenue income source) and recreation (Tourism) etc have been Prime focus of the management for the biodiversity conservation of this protected area. The sanctuary is named after Pakhal lake which is the main source of irrigation in Khanapur and Narsampet mandals. A study was carried out on Pakhal lake to assess the impact of anthropogenic events, sewage, agricultural run off pollution on the water quality of the tank, Physico chemical parameters such as temp, electrical conductivity, Do, BOD, COD total hardness, Total Alkalinity, chlorides, calcium & magnesium sulphates phosphates, nitrates and organic matter. The coliform bacteria were found to be high in the banks of the tank.