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RESEARCH ARTICLE

Study on hydro-chemical parameters and their influence on ichthyofauna diversity in a lentic water body : a model in Warangal district of Andhra Pradesh

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SUMMARY : Freshwater bodies are one of the most common and stable habitats of biosphere. The freshwater habitats have their own physico-chemical and biological characters which are subjected to modify by local conditions and physiographic features. Now a days, the ecology of reservoirs is under stress conditions due to fast pace of industrial development, deforestration, cultural and agricultural practices. These activities trigger the rate of sedimentation of the reservoir bed characterised by silt and organic suspended matter, which initiates the process of eutrophication at a very early stage and show a deterioration of the quality of the habitat. The water quality parameters have a great influence on the growth and other factors of aquatic organisms. Therefore, the lentic water body gives a good source for fisheries. The present investigation deals with limnological and physico-chemical parameters and their influence on ichthyofauna abundance in a lentic water body. The study was carried out for a period of one year *i.e.*, from October, 2008 to September, 2009. The investigation was focused on the determination of hydro-chemical parameters such as water temperature (24.5-33.9°C), pH (7.4-8.7), EC (0.28-0.33 millimhos), TDS (140.2-425.5mg/1), DO (7.1-10.9 mg/1), free CO_2 (5.0-11.7mg/1), total alkalinity (94.0-240.5mg/1), chlorides (27.0-70.7mg/1), total hardness (96.7-142.0mg/1) and BOD (3.4-11.1mg/1). The values of these parameters were higher during summer months. The study was made to record fish fauna availability. In this reservoir, it was recorded that 18 species of fishes were identified, the major fishes in this, were common carps and cat fishes. In the light of recent literature, the data have been discussed and it is concluded that limnological and physico-chemical parameters in this reservoir are most comply with suitability of human consumption and favourable for fishery.

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