

Reserach Paper

Hydrobiological Study and Assessment of Stress of Pollutants in Kolasur Lake at, Pauni, Dist. Bhandara (Maharashtra); Impact of Human Activities.

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Abstract

Present study deals with the estimation of various physico chemical and biological parameters in Kolasur lake, at Pauni, Dist. Bhandara. Kolasur lake is suffering from the stress of domestic pollutants, originated from the human domestic activities on the bank of lake. Temperature of water increased due to addition of organic pollutants in the lake, however, pH, conductivity, showed the monthly variation according to the concentration of organic pollutants in the water. Dissolved oxygen is one of the most important parameter required for the aquatic biota. Lake water showed decline values of dissolved oxygen during the summer season due to more concentration of pollutants in the water. Biochemical oxygen demand of lake water is increased due to continuous inflow of municipal sewage in to the water. Zooplankton community in the lake water showed the variation in their population according to the stress of pollutants in water at different sampling stations.

Key words : Pollution, Organic matter, Lake water, DO, BOD, pH, Conductivity

Introduction

It is well known fact that life is originated in water. A huge quantity of fresh water is available on our planet, almost 1500 million cubic kms. Though 70% of the available water contains significant quantity of salt and hence is of no use. Our planet contains only about 84.4 cubic kms. of the available fresh water, of which 70% is in frozen state in the form of snow caps, ice sheets, glaciers etc. Thus less than 1% of water remains for human use, fresh water is a natural resource of fundamental importance, [17].

A work plan has been conceived to study the physico-chemical and biological study of water quality of Kolasur lake. This investigation will deal with the study of the lake in Pauni town in the district Bhandara. Pauni town has a great historical background since the dynasty of king "VAKATAKA" and is located within the Bhandara district (M.S) 87 km. South East from the Nagpur...

Coulsen and Frobes had defined water pollution as the addition of something to water, which changes its natural qualities, [4]. When water is changed in its quality or compositions directly or indirectly as a result of human activities, it is termed as 'Polluted'. Pollution of fresh water results largely from the waste disposal. Many of our lakes are becoming increasingly murky, smelly and choked with excessive growth of algae. Most of the lakes have become darkened with sewage, chemicals, industrial effluents and agricultural runoff, which consists of fertilizers and pesticides. The Kolasur lake water is utilized for irrigation and fish culture and also used for the drinking of animals. Human activities like washing of clothes, utensils and rare bathing activities.