

WATER QUALITY MONITORING OF RIVER TONS AT AKBARPUR, U.P.**GAJRAJ PANDEY^{a1}, S. N.CHAUBEY^b, JAYRAJ PANDEY^c AND N. K. SRIVASTAVA^d**^aDepartment of Zoology S.D.J.P.G. College, Chandeshwar, Azamgarh, U.P., India^aE-mail: pandey.gajraj7@gmail.com^bE-mail: drsnccchaubey@gmail.com^cDepartment of Zoology, K.N.I.P.S.S. P.G. College, Sultanpur, U.P., India

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ABSTRACT

Due to unproportional growth of population and industries, water quality of river Tons is degrading at a faster rate day by day therefore, regular monitoring of river Tons is essential. With this aims various studied has been conducted in the past on the fresh water. In the present investigation water quality monitoring of river Tons at Akbarpur (U.P.) was studied at different sampling sites during the period January 2009 to December 2009. The various physical properties pH, turbidity, TDS, D.O., and BOD supplemented with the bio-contaminants put the suitability of water for different purposes.

KEY WORDS: APHA., pH, Turbidity, TDS, D.O., BOD

Water is one of the most essential elements for all living organism. So we can not be neglected the importance of water compared with other resources, water is generally very utilizable resource.

The district, Akbarpur is located in eastern part of Uttar Pradesh. Tons river is the one of the important component of the water resources of Akbarpur. Water of Tons is used for domestic, agriculture and residential purpose. But unfortunately it is being polluted through a number of polluting sources. The purpose of investigation was the positional and periodic variance of physical water parameters.

The scientist and investigator are actively interested in study of water pollution problem in big rivers and urban regions of the country, ignoring the fact that small rivers like Tons covers a significant area. More ever, the local problems of health and hygiene, metal corrosion and aquatic hardness may be solved by studying the pollution to the localized site. Above fact stimulated the investigators to take up this paper, with reference to water pollution and its removal.

MATERIALS AND METHODS

Akbarpur is situated on the bank of river Tons. The two sampling stations were marked out for the collection of water samples. They are site A which is situated upstream of

the town area where river water is some what pure At site B which is burnt and unburnt dead bodies disposal site and water is polluted. According to APHA (2000), Singh (2006), Singh (2009) and Dey (2000) the following methods are applied.

pH is measured by digital pH meter. Turbidity determined by digital turbidity meter. Total dissolved solids can be determined by evaporating a barium chloride solution in trace amount of residue. Dissolved oxygen (DO) was determined by Winkler method. Biological oxygen demand (BOD) determined by 5 days BOD test.

RESULTS AND DISCUSSION

The data regarding the pH of site A and B show in table 1 and 2 almost invariance maintaining neutrality of water through the year 2009. The Turbidity of all sites is increasing with time. The turbidity is highest at a level of 265.4. The dissolved solid concentration in Tons river in Akbarpur region increases from entry towards the exit point this is in the form of inorganic and organic particles of of immiscible liquid. Dissolved oxygen (DO) is one of the most important parameter in water quality studies. The levels of dissolved oxygen (DO) and the Biological oxygen demand (BOD) vary from sites A to B It influences the disarticulation and abundances of algae population and is important in bringing about various biochemical changes.

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The Dissolved oxygen (DO) level decreases as one moves from site A towards the site B. Contrary to it, the Biological oxygen demand increases from site A towards the site B. The levels of BOD indicate the magnitude of pollution. Maximum BOD value were observed 0.982 at site B. The above result have been also reported by Singh and Malik (2004).

CONCLUSION

The data reveal a fact that Tons river in this belt has a high self purification power for pollutants which may be

attributed to the nature of wild aquatics, texture and structure of the basement soil of the river. The existence of turning point in a nearby site may partially be elevating the self purification character of river.

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Physico-chemical analysis of river of water at different sites in Akbarpur U.P. Duration Jan. 2009- Dec. 2009

Table 1		Site- A										
Parameters												
Month &	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
pH	6.8	6.8	6.8	6.5	6.5	6.5	7.0	7.0	7.1	7.0	7.0	7.0
Turbidity	116.8	115.9	113.8	112.8	110.8	109.6	214.4	231.6	225.4	228.4	216.2	210.3
T.D.S.	265.9	256.5	230.2	225.8	215.6	210.2	416.8	430.4	405.6	410.2	302.6	298.6
D.O.	0.885	0.882	0.896	0.904	0.982	0.975	0.862	0.864	0.875	0.878	0.880	0.884
B.O.D.	0.869	0.864	0.861	0.980	0.988	0.991	0.892	0.880	0.876	0.874	0.870	0.870

Table 2		Site- B										
Parameters												
Month &	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
pH	6.5	6.5	6.4	6.2	6.2	6.0	7.5	7.5	7.6	7.5	7.5	7.5
Turbidity	128.6	127.5	125.5	124.3	122.6	121.3	233.1	265.4	244.3	247.2	235.0	228.5
T.D.S.	280.6	271.6	245.3	240.7	230.6	225.1	431.8	445.6	420.6	425.1	317.6	313.5
D.O.	0.836	0.832	0.856	0.864	0.894	0.925	0.812	0.814	0.826	0.828	0.850	0.832
B.O.D.	0.814	0.814	0.811	0.930	0.938	0.941	0.982	0.830	0.826	0.824	0.828	0.820

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