

Research Article

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Study on DO, BOD and COD Content of River Godavari at Ramkund Nashik Maharashtra.

Dr. R. S. Bhadane

Associate Professor Department of Zoology,

L.V.H. Arts, Science and Commerce College, Panchavati, Nashik-422.003.

E-mail: dr.rekhasbhadane@gmail.com.

Keywords

Godavari,
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BOD,
COD

Abstract

The River Godavari is one of the major source of freshwater in South region of Maharashtra and also called as "South Gangotri BOD is the measure of oxygen used by microorganisms to decompose the organic waste. The present study deals with study of DO, BOD and COD parameters. Ramkund water during April 2012 to March 2013 Standard Laboratory manual method was used for the study.

Introduction

The river Godavari rises at an elevation of 1067m in the Western Ghats near the Triambakhills in the Nashik district of Maharashtra. After every 12 years, KumbhMela is held on the banks of the Godavari river.

Ramkund is situated about 35 kms away from the origin of river Godavari in Nashik city of Maharashtra state. Ramkund is the holy reservoir in which thousands of sadhus, holy men & millions of pilgrims take dips on specific date and at specific time. Devotees offer pujas and perform rituals at this place. Now a day due to various human activities like mass bathing, cloth washing, asthivisarjan, nirmalyavisanjan, this place become

heavily polluted, causing a need to analyse the water quality here.

Materials and Methods

Water samples were collected at an interval of one month for 1 year from April 2012 to March 2013.

Water samples were analysed with the help of Winkler's Iodometric method in the laboratory for DO and BOD. Similarly, COD was measured by using Dichromate digestion method, samples were collected in dark bottles, incubated at 20°C for five days.

Results and Discussion

Dissolved Oxygen- In the present investigation the DO values ranged from 3.2-6.7 mg/lit. Maximum DO was noted in winter and minimum was recorded in summer months. Similar findings were observed by Hancock (1973), Mishra and Yadav, (1978) Adebisi (1981) and Mitra (1982).

Biological Oxygen Demand- It is an indicator parameter which indicates the presence of biodegradable matter in the water and express degree of contamination. In the present investigation the range of BOD was 3.6-10.4 mg/lit. The values were found more during

Monsoon and low in Winter may be due to less microbial population. Similar trends were observed by Singhal et al (1880) and Patki (2002).

Chemical Oxygen Demand- This test determines the Oxygen required for chemical oxidation of organic matter with the help of strong chemical oxidant. In the present investigation COD values ranged from 12-40 mg/ lit. Maximum values of COD were noted in Monsoon and minimum values found in Winter may be due to settlement and dilution effect. Kudesia et.al. (1986) also observed similar trends. Conclusion-This present study concludes that the water of Ramlund was polluted, the results of BOD, COD exceeds with the permissible limits when compared with WHO.

Table 1. Monthly mean value of DO, BOD and COD (mg/lit) of water samples at RAMKUND during monitoring period 2012-13.

Year Month	DO (mg/lit)	BOD (mg/lit)	COD (mg/lit)
April 2012	4.2	5.0	40.0
May 2012	5.6	6.0	32.0
June 2012	6.3	7.5	40.0
July 2012	3.2	10.4	38.0
August 2012	5.4	8.0	22.0
September 2012	5.2	6.0	28.0
October 2012	5.0	5.0	24.0
November 2012	4.1	5.0	20.
December 2012	6.8	4.0	16.0
January 2013	6.7	3.6	24.0
February 2013	4.8	4.6	28.0
March 2013	4.7	4.0	16.0
Average	5.17	5.76	27.33

Conclusion

Thus present study concludes that the water of Ramkund was polluted as the result of BOD and COD exceeds with the permissible limits when compared with WHO. The higher BOD and COD at ramkund may be due to the activities carried out like washing of clothes, vehicles, nirmalyavisarjan, asthivisarjan, etc. Thus the river water of Godavari at Ramkund is an indication of pollution load and hence not fit for drinking as

well as domestic purpose and it need treatment to minimize the contamination.

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