

Assesement of Water Quality of Jait Sagar Lake in Bundi District (Raj.)

Abstract

Water sample collected from Jait Sagar lake in Bundi for pre monsoon in 2016. The month of Jan-Mar were considered as pre monsoon. The recent analysis were carried out to evaluate the magnitude of the Physico-chemical parameter of the Jait Sagar lake. The result obtained in the present investigation show that the concentration of nitrate and flouride were minium but the coiliform bacteria were found in large amount in Jait Sagar lake. The principle aim of this work is to analyze different physico- chemical parameter like TDS, pH, calcium and Magnesium hardness flouride, chloride and assesment of bacterial lood. The present study also highlight the pollution load in Jait Sagar lake.

Keywords: Jait Sagar, Pollution, Coiliform.

Introduction

A Jait Sagar is a beautiful lake in the Aravalli range which is full of lotus flower, Jait Sagar lake is a man made lake. The lake was actually built by Jaita Meena. Jait Sagar lake have an interesting historical background and importance with increasing population and encroachment around the lake. They come under gave population pressure. Slowly the gradually they become contaminated by bathing, fertilizers, washing cloth and animal activity. Man has used water for numerous purpose and water satisfy domestic and industrial needs and provide transportation hydroelectric power a means for Sewage and waste disposal, fish for food and other resection, inducing esthetic appreciation. As a result of our demands water bodies. have been greatly abused. There are more than twenty water bodies situated in and around Bundi, constructed by the their rules to be used mainly for drinking and other household purposed. Out of the twenty water bodies, One water body name Jait Sagar lake have been selected for the present study has been designed the objectives to evaluate the water quality of the Jait Sagar lake.

Experimental

The quality test survey of Jait Sagar water was conducted in the pre monsoon season 2016. The water sample was collected from morning hours for which air tight water bottles used. The temperature was measured by mercury thermometer graduated up to 100^oc at regular intervals. The calcium and Magnesium hardness were determined by the EDTA titration.

Table
Physico – Chemical Parameters of the Jait Sagar Lake

1.	pH	7.77
2.	chloride (mg/l.)	40
3.	Total Hardness (mg/l.)	266
4.	Nitrate (mg/l.)	0.02
5.	Calcium hardness (mg/l.)	90
6.	Magnesium hardness (mg/l.)	70
7.	Fluoride (mg/l.)	0.217
8.	Terbidity	4.6
9.	Temperrature(°C)	10° To 26° C
10.	Coiliform bacteria (MNP)	25000

Aim of the Study

Wase water was used for irrigation especially for vegetables. Studies evaluation the microbial contamination of vegetables irrigated with waste water have been conducted. Sadoski et al. (1978) revealed that contamination density of facial coiliform on vegetables irrigate with sewage effluent on uncovered soil surface was 38 times higher than on the vegetable irrigated with fresh water. Microbial assesment of water quality along with physico- chemical analysis is gaining important now for a complete examination of water used for various purposes. Biological and

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chemical assesment of water quality is essential because the biological indicators, show the biological characteristics of water pollutants is measured by chemical analysis. The acceptability is assessed by its physical characteristics.

Result and Discussion

The result of the observation are shown in table. It is clear from the analysis that the Jait Sagar water of the Study area is basic in nature with pH range 7.77 fluoride level was found in 0.0217 mg/l. that is much lower than the maximum range low level of fluoride in the present study may be attributed to the absence of fluoride bearing minerals.

Contents of calcium hardness were observed in the 90 mg/l and magnesium hardness value were estimated in the 70 mg/l. Concentration of Total hardness were obtained in 266 mg/l. An excessive amount of Total hardness in drinking water become health hazardous to the living being. Coliform bacteria also present in Jait sagar lake. The presence of bacteria does not mean the water is unsafe to drink. Only disease causing bacteria, known as pathogens lead to disease. Total coliform bacteria is a group of different kind of bacteria commonly found in surface water. Total coliform bacteria are generally not harmful. Fecal coliform bacteria are a subgroup of the total coliform group. They exist in great quantities in the intestines of humans and animals, the presence of fecal coliform bacteria in drinking water is indication of animal waste contamination. This type of contamination can cause severe diarrhea, cramps and nausea, because fecal coliform contamination is more severe than contamination by other type of coliform bacteria.

Conclusion

The results indicated that coliform bacteria values was obtained higher. The major sources of bacteria is from waste waters containing untreated human wastes, animal wastes, waste from agricultural farm. The bacteria is transmitted to the human body through direct contact or by consumption of contaminated water. The coliform bacteria grow in the colon or intestines of human and animals. If large number of these organisms are found in a water sample, than the water is very unsafe for consumption and may cause many diseases. It is assumed that if coliform bacteria are present in a water sample, infectious pathogens are also present.

However, such water can be used only after removing the above mentioned harmful parameters.

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