



Physico-Chemical Parameters of Bennetura Reservoir Murum, Dist-Osmanabad. (Maharashtra)

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Abstract :

During the year 2016 the analysis of water quality from Bennetura reservoir was conducted. Present investigation deals with physico-chemical parameters of reservoir. The temp of water ranged between 16 to 33 oC. pH was found to be 7.5 to 8.2 Total dissolved solids ranged from 62 to 168 mg/lit. Transparency was found to be 77 to 152. The Dissolved oxygen was found to be 5.1 to 9.2 mg/lit Chloride and total hardness varies from 32 to 52, and 52 to 102 mg/lit

Key words- Physico-Chemical limnology-Bennetura Reservoir Dist. Osmanabad.

Introduction

Some Indian workers carried out the Limnological investigation on reservoirs in India such as Kulshrestha et al 1992, Thomas and Aziz 2000 in the state of Maharashtra studies has been conducted on Limnology by Shashtri and Pendse 1991, Sakhare and Joshi 2002,

There is no such work was carried out on Bennetura reservoir Murum in Osmanabad District of Maharashtra. Hence the present investigation was undertaken to study the physico-chemical Limnology of Bennetura reservoir.

Material And Methods

For the systematic analysis of water quality, monthly samples were collected from the four sampling stations for a period of one year (Jan-2016-Dec. 2016) The water samples is used for the collection of sample. The sample was collected for a depth of one meter in the morning period. The sampler is of one liter capacity of plastic can. With this sampler the samples were brought to laboratory for analysis some parameters like temp, transparency, pH, dissolved oxygen, free carbon dioxide and alkalinity, were analyzed at the reservoir (study site) and some parameters like the Total Hardness, Total Dissolved Solids, and Chlorinity were analyzed in the laboratory

The methods used for the analysis of physico-chemical parameters are given as in methodology for water analysis. (Trivedi and Goal 1984, APHA 1980, & M.S. Kodarkar (1998) The pH values were recorded the sides with the help of pH pen-meter.

Result and Discussions

Water Temperature: - The temperature is very important factor which influence the aquatic life. The temp. of air and water affects the conc. of dissolved gasses and chemical solutes. During the present investigation. The temp. varied between 16 to 33 oC. The lowest (16 oC) temp. was recorded in the month of January and highest temp (33 oC) was recorded in the month of may.



pH (Ion Concentration) :- The pH in the reservoir ranged between 7.5 to 8.2 .The minimum pH was recorded in the month of December, while the maximum was in February. It shows that the nature of water during the period of investigation is alkaline.

Transparency: -

The most important physical parameter is transparency which is important for production. With the help of sacchi disc, the transparency of 77 was the recorded in October and 152 cm was recorded during March. Transparency is inversely proportional to turbidity which created by inorganic and organic matter.

TDS (Total Dissolved Solids):- The investigation of total dissolved solids shows that the TDS values peak in summer less in Monsoon. It is observed that TDS value varied from 62 -168 mg/lit. The TDS value 62 mg/lit. in monsoon whereas 168 mg/lit. in summer.

DO (Dissolved oxygen):- It is clearly shows the dissolved oxygen ranged between 5.1 to 9.2 mg/Lit. It found that, the high dissolved oxygen was reported in the monsoon (August) and lower values where recorded in summer (April).

Alkalinity:-

The alkalinity in the water mainly due to the salts of carbonates, bicarbonates , phosphates, nitrates, borates, silicates etc. Total alkalinity is the major of the capacity of water to neutralize a strong acid. The minimum value was observed in the month of August (21) where as maximum value in the month of January. (106).

Free CO₂:- During the period of investigation the free carbon dioxide was not recorded.

Chlorides:- Chlorides was recorded during the investigation such as the minimum and maximum values of chlorides were 2mg/lit. and 52 mg/lit.in the month February and April respectively According to subbamma and Rama Sarma.(1992) , the fluctuation in the chloride values of various water bodies is minimum in the monsoon period.

Total Hardness:- Calcium and Magnesium is the important factor which gives the hardness to the water, maximum values recorded during summer and lowest during winter. During present work it is observed that the maximum hardness (102) was found in the May and minimum (52) in the month of January.

In the present study period, the higher values were recorded in Winter and lower values in Monsoon.

Table No. -I

**Physico-chemical parameters of Bennetura Reservoir Murum Dist. OSmanabad.
 (From Jan-2016 to Dec 2016).**

Sr. No.	Parameters	Range
1	Water temperature (oC)	16 to 33
2	pH	7.5 to 8.2
3	Transparency (cm)	77 to 1562
4	Total Dissolved Solids (mg/lit)	62 to 168
5	Dissolved Oxygen (mg/lit)	5.1 to 9.2
6	Total alkalinity (mt/lit)	21 to 106




7	Free carbon dioxide (mg/lit)	Nil
8	Chlorides (mg/lit)	32 to 52
9	Total Hardness (mg/lit)	52 to 102

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