



PHYSICO-CHEMICAL LIMNOLOGY OF BORI RESERVOIR, NALDURG, OSMANABAD (M.S.) INDIA

P. L. Sawant

**B.S.S. Arts, Science and Commerce College, Makani,
Dist.-Osmanabad , Maharashtra, INDIA.**

ABSTRACT

The present communication deals with the study of Physico-Chemical Limnology of Bori reservoir, Naldurg, Osmanabad (M.S.) India. The work was carried out during the year 2018 (January to December).

Limnology study covers aspect of the biological, Chemical, Physical Characteristics of Inland water. A systematic analysis of water quality of Bori reservoir with physicochemical aspects and its significance to the fisheries. The Study revealed that the water of reservoir is suitable for fisheries.

KEYWORDS: *Physico-chemical limnology, Bori Reservoir.*

INTRODUCTION :

A lot of work was carried out by the Scientists i.e. Kulshresotna et al 1992, Thomas and Das et al 2001, Sakhare and Joshi 2002, Das R.K. 1996.

There is no authentic record found about the limnological study of Bori reservoir hence the present work was carried out during the year 2018 (January to December)

Limnology is closely related to aquatic ecology & hydrobiology which Study aquatic organisms and their interactions with the abiotic and biotic environment while Limnology has substantial overlap with fresh-water focused disciplines.

MATERIALS AND METHODS

Monthly samples were collected from the reservoirs for a period of one year. The water samples were collected with the help of sampler in the morning hours. Water samples were brought in one liter plastic container to the laboratory for analysis.

The methods used for the analysis of various physicochemical parameters except PH are as given in methodology for water analysis Trivedy and Goal 1984, APHA 1980 and Kodarkar et al, (1998) The hydrogen ion concentration (PH) values were recorded at the water samples collection sites with the help of Hanna made Ph Meter.

RESULTS AND DISUSSION

During the one year period of Investigation following parameters were studied.

1. **Water temp:-** The water temp varied between 21 to 27°C. The minimum value recorded in the month of January and maximum during the April.
2. **PH:-** The PH of the reservoir ranged between 7.1 to 8.3 The minimum PH was recorded in month of December and maximum in the February It shows that the water of the reservoir was alkaline throughout the study period.

3. **Transparency:-** It was recorded 77cm in September and 146 cm maximum during Feb. The low transparency may be due to the silt brought into the reservoir during monsoon. The Transparency was measured with the help of secchi disc.
4. **Total dissolved solids:-** It ranged from 218 to 227 mg/lit. The maximum in April and minimum in August.
5. **Dissolved oxygen (D.O.):** The D.O. Varied from 6.3 to 8.8 mg/lit. The maximum in August and minimum in March. It was observed that the high D.O. was found in monsoon, while lower values were recorded in summer.
6. **Total alkalinity:-** The maximum value of total alkalinity 143mg/lit was noticed in December and minimum 70 mg/lit was in August.
7. **Free CO₂:-** Free CO₂ was totally absent during the study period.
8. **Total hardness:-** During the present study, the maximum total hardness 254 mg/lit was recorded in May & minimum 70 was in January.

The results of Physico-chemical parameters shown in Table No. 1

Sr. No.	Parameters	Range
1.	Water temp. °C	21 to 27 °C
2.	PH	7.1 to 8.3
3.	Transparency cm	77cm to 146 cm
4.	Total dissolved solids (mg/Lit)	218 to 227 mg/lit
5.	Dissolved oxygen (mg/lit)	6.3 to 8.8 mg/lit
6.	Total alkalinity (mg/lit)	70 to 143 mg/lit
7.	Free carbon dioxide (mg/Lit)	Nil
8.	Total hardness (mg/lit)	70 to 254 mg/lit

ACKNOWLEDGEMENT

The Authors are thankful to the Principal, B.S.S. Arts, Science and Commerce College, Makani, Dist.Osmanabad-413604, Maharashtra, INDIA for providing necessary library and laboratory Facilities.

REFERENCES

- A.P.H.A. 1980. Standard Methods for the Examination of Water and Wastewater. New York, 15th ed. Pp134.
- Das, R.K. 1996. Monitoring of water quality, its importance in disease, epizootics and quarantine adoption in India. October 9,1996. CIFRI. Pp 51-55.
- Kodarkar, M.S., Diwan, A. D. Murugan, N. Kulkarni, K.M. and Anuradha Ramesh. 1998. Methodology for water analysis (Physico-chemical, Biological and Microbiological). Indian Asso. of Aqua. Biologists, Hyderabad. Pp 102.
- Kulshrestha, S.K. George, M.P., Saxena, Rashmi, Johri, Malini and Shrivastava, Manish. 1992. Seasonal variations in the limnochemical. Characteristics of Mansarovar reservoir of Bhopal. In Aquatic Ecology (S.R.Mishra and D.N. Saksena Eds.), Pp 275-292. Ashish Publishing House, New Delhi, INDIA,
- Sakhare and Joshi 2001-Ecology of Palas Nilegaon reservoir in osmanabad District Maharashtra. J.Aqua. Biol 17(2):17-22.