



An Assessment of Zarpat River Water Quality Using Physicochemical Studies

Manisha A. Mahatale, and M. Subhas

JanataMahavidyalaya, Chandrapur
ashishmahatale@gmail.com

Abstract:-

The piece of investigation was carried out to study the physico-chemical Parameter of Zarpat river water in Chandrapur District of Maharashtra State. The quality of river was Assess in term of physic-chemical Parameter such as Temperature, PH, Turbidity, Alkalinity Conductivity, Chemical oxygen demand Hardness during the period of three month from Nov. 2014 to Jan 2015. Sample were collected from three station S_1 , S_2 , S_3 from Zarpat river. On the basis of whole investigation the parameter varies from month to month. Because of Discharge of domestic Pollutant and other waste, there variation occurs.

Keywords:-Zarpat River Water, Physicochemical, charecteristics.

Introduction:-

Much of the current concern with regards to environmental quality is focused on water because of its importance in maintaining the human health. Water is one of the most important needs of man. It is estimated that one can stay for month without food but can only service a few days without water. Due to increase in human population, Industrialization uses of fertilizer in Agriculture and Manmade Activity the natural aquatic resources one causing heavy pollution. The addition of various kinds of pollutants and nutrients through the agency sewage industrial effluents, agricultural runoff etc. into the water bodies bring about a series of change in the physic-chemical and characteristics of water, which have been the subject of several investigations. The impurities may give water a bad taste, color, odour or turbidity and cause hardness, corrosives, staining and frothing.

The main objective of this work has to analyze various physic-chemical parameters of water zarpat river in Chandrapur City.

Material and Methods:-

The water Sample was collected from the selected sampling site S_1 , S_2 and S_3 of Zarpat River in between 11.00 am. to 12.00 am. Sampling programme for present study was started from Nov. 2014. The water Sample were collected in pre-cleaned plastic container and brought immediately to Laboratory for the investigation of various physic-chemical parameters. Temperature of Samples was recorded with three-month with O.I.C. Division. The various Physico-chemical parameters such as Temperature. P_4 , Turbidity, Conductivity were recorded at the time of Sample collection. While other parameter such as cozo, Alkalinity, leardness, TDS etc. were recorded during sample collection.





Result and Discussion:-

The following observation were recorded during the whole study in the zarpat river at the sampling station S₁, S₂, S₃, for the period of twelve week from November 2014 to Jan 2015. Table showing weekly observed value of temperature.PH, of shorts variation from 7.6 to 8.8.At site S₁ 7.5 to 8.8.At Site S₂ and 7.7 to 8.9 at site S₃ for the period of study. Weekly mean value of turbidity of Zarpatriver given in table also shows variations. It shows between 22.85 to 40.08. Weekly mean value of specific conductivity also given in table. Weekly mean value of Alkalinity also given in table with variable ranges. All the station from Zarpat river water possessed hard water during the entire Investigation period. Different values of total hardness also given. In table:-

Month	Week	Temp			PH			Turbidity			Conductivity			Alkalinity			Total Hardness		
		S ₁	S ₂	S ₃	S ₁	S ₂	S ₃	S ₁	S ₂	S ₃	S ₁	S ₂	S ₃	S ₁	S ₂	S ₃	S ₁	S ₂	S ₃
Nov	1 st	23.3	23.3	23.3	7.1	7.1	7.2	26.3	26.24	26.25	459	348	630	250	261	270	198	185	200
	2 nd	24.4	24.4	24.4	8.1	8	8.2	31.32	30.24	28.10	431	371	581	225	251	265	281	198	215
	3 rd	25.1	25.1	25.1	7.2	7.1	7.3	27.8	28.06	30.2	581	465	561	251	285	281	205	206	201
	4 th	26.2	26.2	26.2	8.0	8.1	8.1	36.1	35.8	32.8	800	653	700	300	281	280	200	198	205
Dec	1 st	26.1	26.2	26.8	8.3	8.5	25.1	25.1	37.5	25	1139	985	984	276	281	310	264	268	267
	2 nd	26.8	26.7	26.9	8.1	8.8	8.9	29.1	39.8	64	981	934	930	233	250	222	283	291	280
	3 rd	27.2	27.1	27.3	7.0	8.2	8.1	21.5	28.6	78	781	530	538	251	281	286	241	244	250
	4 th	27.1	27.1	27.4	8.0	7.9	7.7	28.8	28.9	24	1120	859	875	250	235	238	291	287	290
Jan	1 st	27.8	27.9	27.8	7.8	7.9	7.8	32.8	32.6	59	1181	1201	1018	221	220	241	182	175	178
	2 nd	27.2	27.8	27.8	7.8	7.6	7.5	40.9	40.8	53	1036	561	585	250	271	275	183	154	153
	3 rd	27.3	27.8	27.9	8.0	8.5	8.4	38.5	39.5	21	391	352	361	201			185	188	193
	4 th	27.1	27.6	27.8	8.6	8.7	8.9	21	15.8	55	321	281	285	190	185	181	190	184	185

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