International Journal for Multidisciplinary Research
International Conference on Multidisciplinary Research & Studies 2023
E-ISSN: 2582-2160 ● Website: www.ijfmr.com ● Email: editor@ijfmr.com
ICMRS'23

Phytoplankton diversity in muchi and karanji lake , Pandharkawada (maharastra) Dist :- yavatmal

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Keyword:- Phytoplankton ,diversity , muchi karanji

Introduction :-

Life of an organism is always in the state of perfect balance with the environment and organisms try to remain in balance with the surrounding medium. The environment and various environmental factors refers to various condition surrounding an organisms and these factors influence the growth of an organisms and its population .Many workers have tried to establish a direct relationship between tropic status of waterbodies and aquatic plants Wolverton and Mc Donald (1978) Agarkar et.al.(1994) stated that eutrophic waterbodies characterized by the presence of aquatic plant . Mc vea and Boyd (1975) have reported that an aquatic plant alters the physic chemical characteristic of waterbodies Lakes are locked up systems and basin soil plays a predominant role in determining lakes water quality . In tropical reservoirs phosphate level in water usually govern ecology of the lakes . Usually, there is a quick recycling and rapid turnover of nutrient in lakes as Ehrligh (1960); Abbot (1967) have reported, plankton, by virtue of their drifting habit and short turnover period, constitute the major link in the trophic structure and events in the reservoir ecosystem. A rich plankton community with a well marked seral succession is the hallmark of Indian reservoirs .The present work deals with a comparative study of two lakes in pandharkawada Dist. Yavatmal in the vidharba region in maharastra .These lakes are of perennial type and are prone partly to anthropogenic activities. These lakes are in remote area and are surrounded by hilly regions and are rainfed aquatic bodies . Purpose of the work is to obtain phytoplankton diversity of the lake under study to understand various reaction under going in these lakes and also to obtain a data of phytoplankton present in them.

Material and Methods

In the present instance, a research is proposed to undertaken a systematic analytical study of proposed to two lake named muchi lake and karanji lake situated closer to pandharkawada Dist yavatmal . The proposed work was carried over 12 months duration from march 2009- march 2010. These lake are situated in closer vicinity of pandharkawada township and are placed in closer proximity to each other. Both these lake are situated at about 350-400 MSL and are situated towards north of pandharkawada and these lakes are situated geographically on 19^0 13` E longitude and 19^0 45 and 20^0 20N latitude.

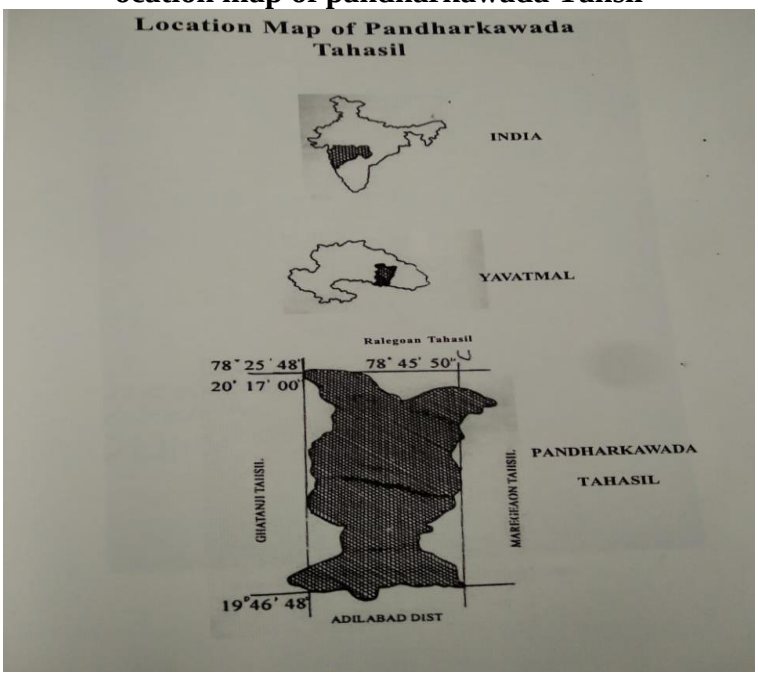
Table :- 1 Descriptive feature of muchi lake

1 . Location	Near mangurda village pandharkawada
2 . Longitude	78^0-27"=00 E
3 . Lattitude	20^0- 27" = 00 N
4 . Length	310 m
5 . Average rain fall	1062mm
6 . Average rainy days	50-60 days

Table :- 2 Descriptive feature of karanji lake

1 . Location	Near karanji village pandharkawada
2 . Longitude	78^0-27"=00 E
3 . Lattitude	20^0- 27" = 00 N
4 . Length	310 m
5 . Average rain fall	1062mm
6 . Average rainy days	50-60 days

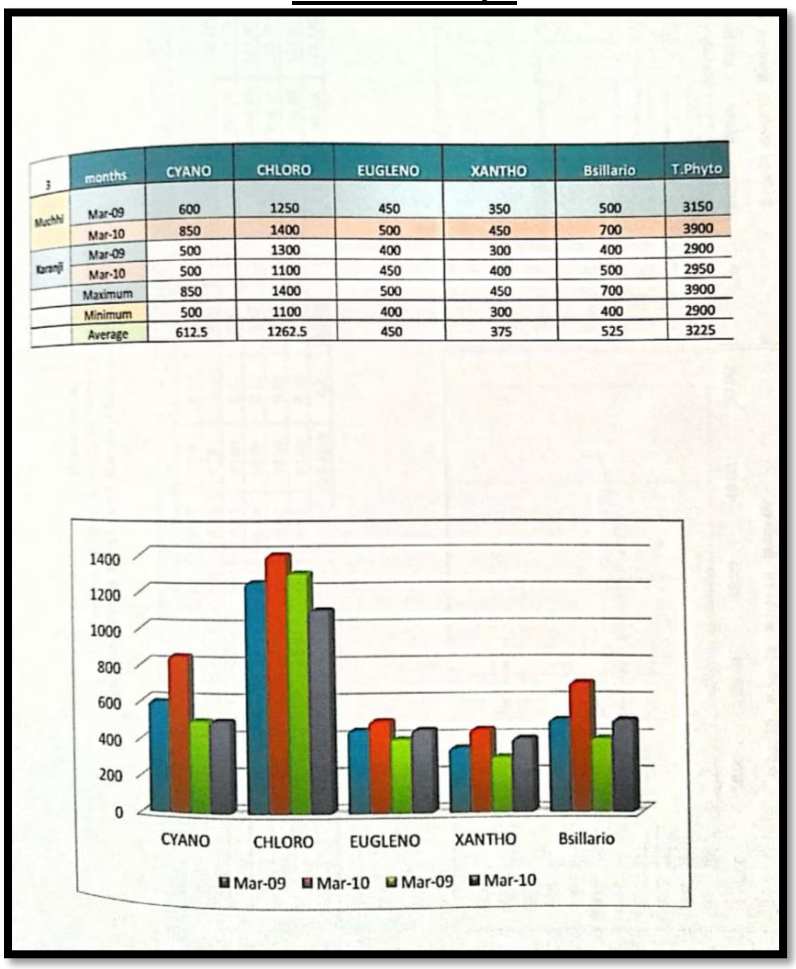
ocation map of pandharkawada Tahsil



OBSERVATION AND RESULT :

In the present investigation in muchi & karanji lake water samples were collected in the morning time on different sampling spot and screened for phytoplankton diversity and Result were presented in table, plates and graphs. Monthly variation of phytoplankton diversity recorded that large number of species were found during month of summer in muchi & karanji lakes and less number of species were recorded durning the month of January in year. In summer month phytoplankton exhibited higher number of phytoplankton in both the lakes and minimum number of phytoplankton during the month of November , December January and February during rainy season (june, july & august) phytoplankton count in both lake were found to decline and ranged between 150 to 240 ml. Different genera were identified from both the lake and were phyla were counted individually . The phytoplankton were identified from both the lake and were classified represented as cyanophyceae, chlorophyceae, Euglenophyceae, Xanthophyceae and Bacillariophyceae the annual average phytoplankton diversity in different month from 2009-2010 are recorded in various Table & graphs .

Tables & Graph



3	months	CYANO	CHLORO	EUGLENO	XANTHO	Bsillario	T.Phyto
Muchhi	Mar-09	600	1250	450	350	500	3150
	Mar-10	850	1400	500	450	700	3900
Karanji	Mar-09	500	1300	400	300	400	2900
	Mar-10	500	1100	450	400	500	2950
	Maximum	850	1400	500	450	700	3900
	Minimum	500	1100	400	300	400	2900
	Average	612.5	1262.5	450	375	525	3225

Table No -1

Monthwise representation of phytoplankton diversity of muchi lake (2009- 2010)

Month	cyano	chloro	Eugleno	Xantho	Bacillario	T. phyto
Mar 2009	600	1250	450	350	500	3150
Apr 2009	800	1450	500	450	550	3750
May 2009	700	1350	450	400	600	3500
June2009	550	750	500	500	550	2850
July 2009	450	850	400	300	400	2400
Aug 2009	450	500	450	350	450	2200
Sept 2009	700	1100	300	450	400	2950
Oct 2009	750	1200	400	500	850	3100
Nov 2009	500	1350	450	550	450	3300
Dec 2009	550	700	300	500	400	2450

Jan 2010	600	500	400	450	350	2600
Feb 2010	700	700	450	400	650	2900
Mar 2010	850	1400	500	450	700	3900

Table No :- 2

Monthwise representation of phytoplankton diversity of karanji lake (2009- 2010)

Month	cyano	chloro	Eugleno	Xantho	Bacillario	T. phyto
Mar 2009	500	1300	400	300	400	2900
Apr 2009	600	1250	300	300	1150	3600
May 2009	700	1200	400	400	500	3200
June2009	350	550	300	250	400	1750
July 2009	450	600	300	400	350	2100
Aug 2009	350	1000	300	350	350	1350
Sept 2009	500	900	350	400	350	2500
Oct 2009	450	650	300	350	250	2000
Nov 2009	500	1200	300	350	400	2750
Dec 2009	600	750	300	350	350	2450
Jan 2010	600	700	300	250	350	2200
Feb 2010	400	500	200	400	300	1800
Mar 2010	500	1100	450	400	500	2950

Conclusion :-

The present study revaled that the correlation coefficient study showed that the phytoplankton positively correlated with various parameter . In muchi lake chlorophyceae exhibited significant positive correlation with Bacillariophyceae. While in karanji lake chlorophyceae and Bacillariophyceae were positively correlated with all other groups of phytoplankton studied

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