Vol 5 Issue 9 Oct 2015

ISSN No : 2230-7850

International Multidisciplinary Research Journal

Indian Streams Research Journal

Welcome to ISRJ

RNI MAHMUL/2011/38595 **ISSN No.2230-7850**

Indian Streams Research Journal is a multidisciplinary research journal, published monthly in English, Hindi & Marathi Language. All research papers submitted to the journal will be double - blind peer reviewed referred by members of the editorial board.Readers will include investigator in universities, research institutes government and industry with research interest in the general subjects.

Address:-Ashok Yakkaldevi 258/34, Raviwar Peth, Solapur - 413 005 Maharashtra, India
Cell : 9595 359 435, Ph No: 02172372010 Email: ayisrj@yahoo.in Website: www.oldisrj.lbp.world

Indian Streams Research Journal
ISSN 2230-7850

Impact Factor : 3.1560(UIF)
Volume - 5 | Issue - 9 | Oct - 2015

DIVERSITY OF FISH FROM TWO DIFFERENT LAKES OF SOUTH SOLAPUR, MAHARASHTRA.

Chougule S. H.
Shankarrao Mohite Mahavidyalaya, Akluj, Dist:Solapur.

Co - Author Details :

Darekar P. V. and Kumbar A. C.
Shankarrao Mohite Mahavidyalaya, Akluj, Dist: Solapur.

ABSTRACT

Patil lake and Vadar lake in south Solapur are visited for study of fish biodiversity. Which were used for irrigation, drinking and for fish production. It exhibits diversity of fish fauna. It represents common four species of fish. Among them 3 species are of major carps, 1 species of cat fishes. These all 4 species are commercially important. Average fish product were observed in post monsoon season in Patil lake at the same time as maximum fish production were observed in Vadar lake in post monsoon season in the year of 2014.

KEYWORDS :*Lake, Fish fauna.*

INTRODUCTION:

Fish plays a vital role in aquatic ecosystem to balance the food chain. These organisms are enormously diverse with altered species in different environmental condition and it is only food resource collected from natural population. In India total 2500 species of fishes have been recognised. Out of these 930 are freshwater species. This fish diversity attracting many icththyologist, not only from India but also from abroad. Habitat nature of fish population goes on fluctuating according to variations occurred in water quality as climate changes and other human interventions. It is important to study fish diversity and their habitats management which is great challenge of todays (Dudgeon, et al., 2006). Diversity of fish encompass of species richness, species abundance and phylogenetic diversity.

Fish diversity of Patil Lake and Vadar Lake has been undertaken specifically abundance and to recommend conservation management measure of present fish fauna. These lakes have study area for identification of fresh water fishes from south Solapur. Now a days fish catching from various region always been fluctuating which directly affects on fish population. The present study was done

in pre monsoon season and post monsoon season in 2014 and it is significant for future references.

MATERIAL AND METHOD

In the present study two lakes are undertaken for investigation i.e. Patil lake and Vadar lake. These two lakes are of perennial type and located in the village Boramani in south Solapur tehsil of district Solapur. The lakes are close to Pune-Hyderabad N.H. No.09. Their geographical location is as follows.

1) Patil lake - 17° 44'51"N- 76° 1'40"E
2) Vadar lake - 17° 43'52"N-76° 3'13"E

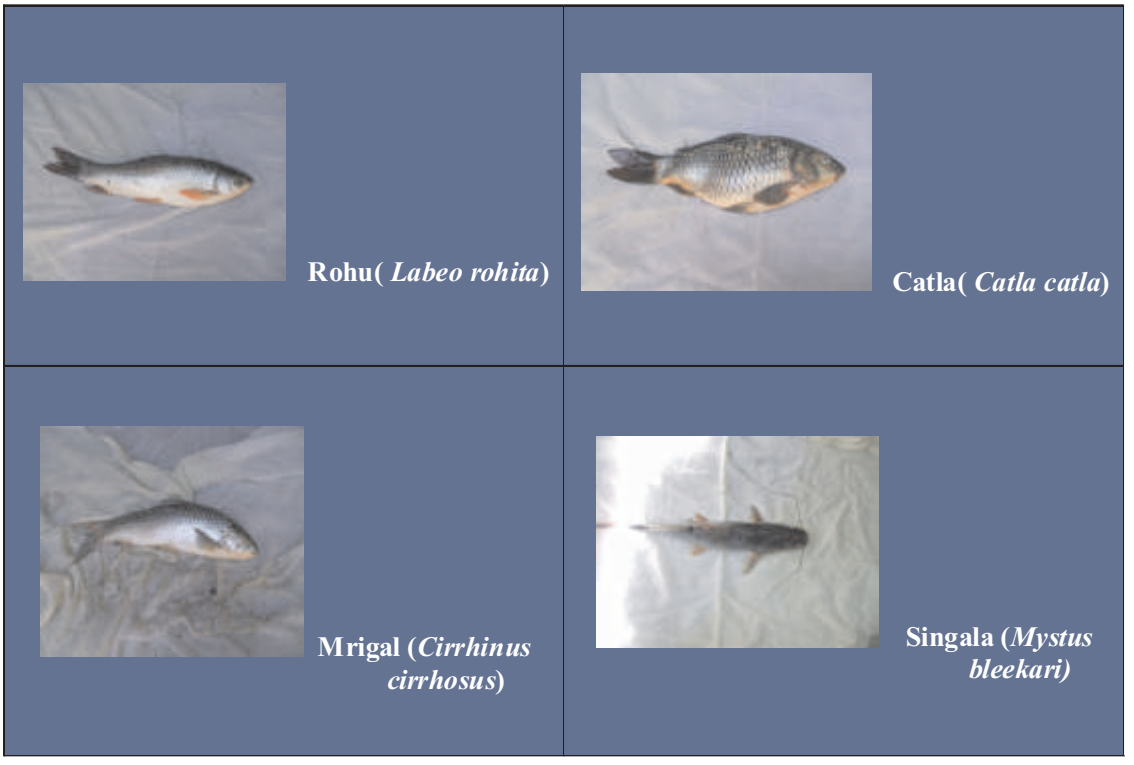
The fishes were observed from the Patil Lake and Vadar Lake with the help of local fisherman during the year May 2014 – December 2014 from each study area in morning time at fixed day in pre monsoon season and post monsoon season. Species were observed in the sites of lake and have taken high pixel camera to take the photographs and it was draw on further taxonomic investigation. Identification of species was done by using standared reference Day, (1951), Talwar and Johingson, (1991), DattaMushi and Shrivastava, (1988).

RESULTS

The following table shows variation which occurred in Fish diversity of Patil Lake and Vadar Lake-

Name of the Species	Patil Lake		Vadar Lake	
	Pre Mon.	Post Mon.	Pre Mon.	Post Mon.
Rohu(*Labeo rohita*)	--	++	--	+++
Catla(*Catla catla*)	--	++	+	+++
Mrigal (*Cirrhinus cirrhosus*)	+	++++	++	++++
Singala (*Mystus bleekari*)	--	+	--	++

(Pre Mon.- Pre Monsoon season, Post Mon.- Post Monsoon season) (++++ is Most abundant, +++ is abundant, ++ is less abundant, + is very less abundant, - - is No abundance,)



DISCUSSION

These lakes have diversity of fish fauna with 4 dominant species (Table 1). The major carps *Labeorohita, catlacatla* and *Crrihinamriga*l are dominated species which is belong to order Cypriniformes and family Cyprinidae due to their seed stocking in post monsoon season. *Mystusbleekari* is belong to order Siluriformes and family Bagridae In post monsoon season both Patil and Vadar lake has numerical dominant species of Mrigal but during pre-monsoon season Mrigal species has very less abundance in Patil lake and less abundance in Vadar lake. Rohu is less abundant in Patil Lake while abundant in Vadar lake during post monsoon season. No abundance of Rohu and Singala were noticed during pre monsoon season. Species of Catla has less abundance in Patil lake while abundance was observed in Vadar lake during post monsoon season. This species of Catla has very less abundance in Vadar lake and no abundance was observed in Patil lake during pre-monsoon season. Kamble and Mudkhede, (2009) reported that 5 species of major carps and 4 species of cat fish in medium reservoir. Similarly Negi and Rajput, (2012) were also reported Rohu (6.43%) and catla (2.34%) and mrigal (3.51%) in Bhimal lake While in Nainital lake Rohu (4.83%) and catla (2.41%).Salasker and Yeergi, (2004) recorded near 10 major fish species from Powai lake, Mumbai in Maharashtra.

During pre monsoon season the air temperature was more which ultimately increase the evaporation of water in lake. Availability of water in this season was not as so much and evaporation also more as the temperature. Dissolved Oxygen was going to reduced by oxidation process. Such poor oxygen containing water was not suitable for fish population. Similar observation was done by Negi and Rajput, (2012). During post monsoon season quite good for breeding of fishes and availability of appropriate amount of water from both the lake helps in increasing the abundance of fishes.Thirumala et.al, (2011) observed that Diversity of fish species higher in post monsoon season when having the favourable post monsoon condition such as adequate water and ample food resources at the same time as in pre monsoon season diversity was low due to the shrinkage of water of reservoir. Shukla et.al, (2007) reported that the diversity of fish species in the lake mostly depends upon the healthiness,

ecological factors and different anthropogenic activities occurrence within and in the region of lake water.Dissolved oxygen also in optimum level during post monsoon season increases abundance of fishes in both Patil lake and Vadar lake, but due to low value of DO,which affects mass mortality of fishes in Nainital lake has been observed by Das and Pande, (1978), Pant and Sharma, (1978). Area of Vadar lake is more and less disturbance was occurred by human being as comparing to Patil lake, so the more abundance were observed in Vadar lake. In both the lake catching of fishes was done in winter and late winter season; so fisher man focused on major carps which have commercial importance.

From our observation, we have to conclude that Vadar lake need to be conserved by giving artificial aeration during pre monsoon season because it has abundance of major crops which are of commercial significant. The Patil lake also require such conservation as well as confer awareness of water quality to people.

REFERENCES

1.Das, S.M., and Pande, J. (1978): Some physico-chemical and biological indicators of pollution in LakeNainital, Kumaun (UP). Indian Journal of Ecology, 5, 7-16.

2.DattaMunshi, Srivastava, M.P. (1988): Natural history of fishes and systematic of fresh water fishes of India. Narendra Publishing House, Delhi.

3.Day, F. (1829, 1889): The Fishes of India: Being a Natural History of the Fishes Known to Inhabit theSeas and Fresh Waters of India, Burma and Ceylon. Text and atlas, London, B. Quaritch, 1875-1878.

4.Dudgeon, D., Arthington, A.H., Gessner, Z.I., Kawabata and Knowler. (2006): Freshwater biodiversity: Importance, threats,status and conservation challenges. Biol. Rev., 81.163-182.

5.Kamble, A.T. and Mudkhede, L.M. (2009): The studies on diversity of fish fauna in medium reservoir, Mandvi, Kinwat, Maharashtra. J. Of Aqua. Biol., 24(1),41-43.

6.Nagi, R.M. and Rajput, V.(2012): Fish Diversity in Two Lakes of Kumaon Himalaya Uttarakhand, India. Research Journal of Biology., 02(05), 157-161.

7.Pant, M.C., and Sharma, A.P. (1978): Observations on some possible casual factors governing the mortality of winter fish in the Nainital Lake. In: Proc. Natl. Seminar on Res. Dev. and Env. in the Himalayan Region, DST, New Delhi. Nainital, GyanodraPrakashan, 248-254.

8.Salaskar ,P.B. and Yeergi, S.G. (2004): Primary productivity of Pawailake, Mumbai Maharashtra. Journal of Aqua.Biol. Hyderabad, 19(1),19-22.

9.Shukla, N.P., Srivastava, A.K., and Purwar, A. (2007): The effect of various pollutants on fishes. Journal of Floraand Fauna, 1,165-179.

10.Talwar, P.K., and Jhingran, A.G. (1991): Inland Fishes.vol. 1 & 2, New Delhi, Oxford and IBH Publishing Co.Pvt. Ltd.

11.Thirumala, S.,Kiran, B.R. and Kantaraj, G.S. (2011): Fish diversity in relation to physico-chemical characteristics of Bhadra reservoir of Karnataka, India.Adv. Appl. Sci. Res., 2 (5),34-47.

Publish Research Article
International Level Multidisciplinary Research Journal
For All Subjects

Dear Sir/Mam,

We invite unpublished Research Paper,Summary of Research Project,Theses,Books and Book Review for publication,you will be pleased to know that our journals are

Associated and Indexed,India

- International Scientific Journal Consortium
- OPEN J-GATE

Associated and Indexed,USA

- Google Scholar
- EBSCO
- DOAJ
- Index Copernicus
- Publication Index
- Academic Journal Database
- Contemporary Research Index
- Academic Paper Databse
- Digital Journals Database
- Current Index to Scholarly Journals
- Elite Scientific Journal Archive
- Directory Of Academic Resources
- Scholar Journal Index
- Recent Science Index
- Scientific Resources Database
- Directory Of Research Journal Indexing

Indian Streams Research Journal
258/34 Raviwar Peth Solapur-413005,Maharashtra
Contact-9595359435
E-Mail-ayisrj@yahoo.in/ayisrj2011@gmail.com
Website : www.oldisrj.lbp.world