



Study of Fish Diversity in Ulhas River of Badlapur Taluka District Thane Maharashtra

Ansari Gulista Raees Ahmad

B.N.N.College, Bhiwandi, Thane, Maharashtra, India

Corresponding Author – Ansari Gulista Raees Ahmad

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Abstract :

Study of biodiversity has become very essential for scientific data banking as unexpected abrupt climatic changes occurring regularly. This is mainly due to unchecked anthropogenic activities happening in the name of development. Riverine fishery is livelihood of many and also fish diversity of any region has great significance in environmental assessment of that region. The present research work was carried out to assess the fish diversity at Ulhas River flowing in Badlapur Taluka region of Thane district in Maharashtra. For the present study river water analysis of six villages and its fish diversity was accounted in context to the developments in the area such as industries, warehouses, etc.

The finding of the study revealed that the quality of the river water is affected due to establishment of industries on the river bank and least attention of the authorities and non-adherence of the policies by the industries to compulsorily treat effluents. The fish fauna study unfolded the depleting conditions, as the survey conducted in the fish market and among fishermen community revealed disappearance of many species and deteriorating quality of existing species. Only four species were identified and among this Actinopterygii was a major class of fish observed. Overall study revealed that Fish diversity along this region was less in comparison to previous years. Study of this nature is important for restoration of water bodies and revival of fish diversity and improving livelihood of poor fisherman community in the rural region.

Key Words: Badlapur Taluka, Fish Diversity, Actinopterygii, Ulhas River

Introduction:

India has a rich biological background that show it is one of the nation with mega diversity of the world. There are 1000 of Small & big rivers in India. Rivers are place of freshwater and are dynamic in environmental conditions. Rivers are areas of physical and biological transition between the lands. Importance of rivers is well understood in many parts of the world as breeding and nursery grounds for a wide variety of fishes. The mangrove ecosystem of river in India act as a nursery ground for a variety of shrimps, crabs and fin-fishes. River environments are among the most productive on earth creating more organic matter each year than comparably sized areas of forest, grasslands or agricultural land and have important commercial value with providing economic benefits for fisheries, tourism and recreational activities. Fishes form one of the most important groups of vertebrates influencing life in various ways. Fish plays an important role as it is not only useful for food but also be used in recreation and biological control. The Thane district (Now divided into two districts Thane and Thane) alone shares about 23.6% of the total fish landing from Maharashtra. Today rivers are heavily exploited and are among the most threatened ecosystems. Hence it is

necessary to carefully asses the diversity status in these ecosystems. Present study deals mainly with diversity of fishes along Ulhas River.

Materials And Methods:

Ulhas River was visited from 2nd December 2022 to 26th December 2022.. The fishes were collected by local fishermen by using different type of nets eg. Cast net, hand net, purse seine and gill nets. Analysis of catch was done Analysis of catch was done. The fishes caught were examined for their colour or spots present on their body and recorded on the field. The species were ascertained on the basis of various morphometric characters with the help of Day (1888). This region has not assessed for any ecological study before. Hence, it is chosen to assess fish diversity.

Results And Discussion:

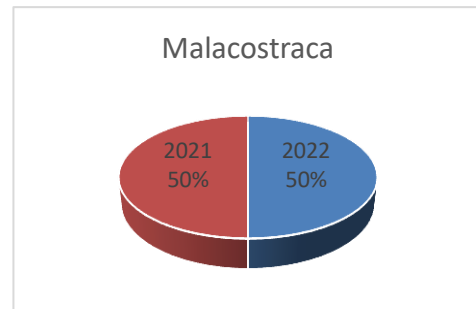
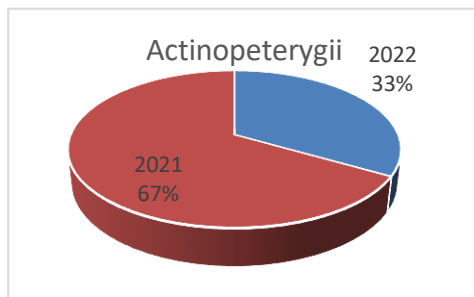
The fish diversity at Ulhas River from Badlapur was studied from 2nd December 2022 to 26th December 2022.. The present study has revealed that there are about 4 fish species were observed during the span of two weeks of study. These 4 species were belonging to major class. Actinopterygii & only one species belongs to Malacostraca. The quantity of fish has decreased compare to the previous year data with current year

data due to the industrial setup and development at the bank of the river. This has led to the depletion of aquatic fauna and quality and quantity of the fish. The livelihood of fisherman is under threat in this area.

Previous status of Fish in the River - (D.M. Lal , G.B. Sreekanth , C. Soman , K.K. Ramteke , R. Kumar and Z.J. Abidi * 1 Department of Fisheries Resource Management, ICAR) Current status of Fish in the River.

Sr. No	Class	Order	Family	Genus and species	Local Name
1	Actinopterygii	Siluriformes	Clariidae	C. Yariepinees	Mangur
2	Actinopterygii	Perciformes	Percidae	Percinae Perca	Rani
3	Actinopterygii	Anguliformes	Congridae	Congromuranaandgo	Vaam
4	Malacostraca	Decapoda	Penaridae	Fenneropenarusindius	Kolambi
5	Actinopterygii	Cypriniformes	Cyprinidae	GibelionCatla	Catla
6	Actinopterygii	Cypriniformes	Cyprinida	Labeoninae Rohita	Rohu
7	Actinopterygii	Peruformes	cinadae	Tilapia Spramani	Tialapia

Sr. No	Class	Order	Family	Genus and species	Local Name
1	Malacostraca	Decapoda	Penaridae	Fenneropenarusindius	Kolambi
2	Actinopterygii	Cypriniformes	Cyprinidae	GibelionCatla	Catla
3	Actinopterygii	Peruformes	cinadae	Tilapia Spramani	Tialapia
4	Actinopterygii	Siluriformes	Clariidae	C. Yariepinees	Mangur



Gibelion catla

The water quality monitoring in this area is performed in order to determine the quality of water. Various parameters are analysed in the laboratory and 8 parameters are tested at field level. All these tasks recorded are utilized for preparing these report. This data is considered in order to specify the **Water Analysis report:**

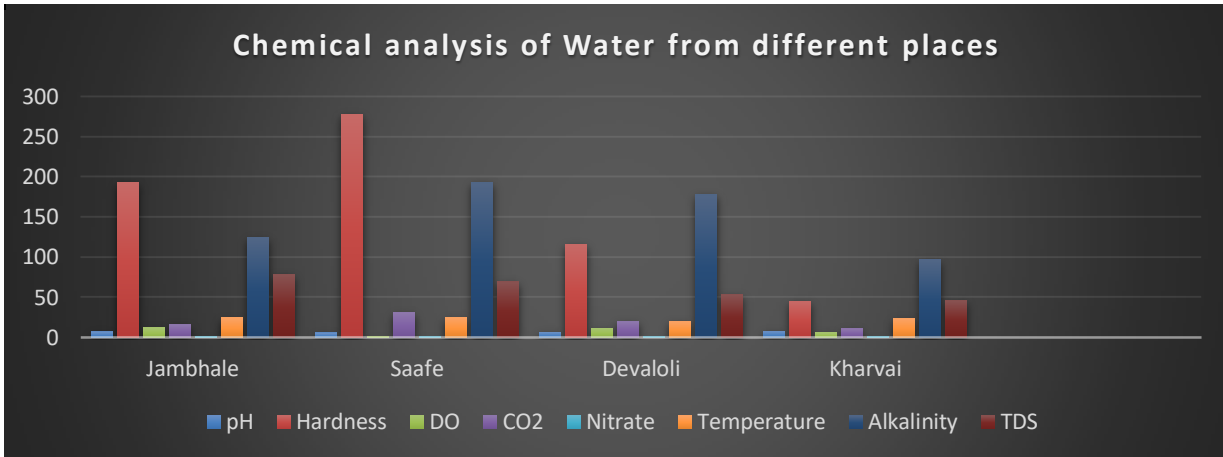
Sr. No	Parameters	Jambhale	Saafe	Devaloli	Kharvai
1	pH	6.69	5.76	6.7	7.52
2	Hardness	190	270	111	45
3	DO	12	0.56	11.65	6.3
4	CO2	15	30	20	12



Fenneropen arusindius

quality of water at each location. This also helps to determine the pollution level or concentration in each source of water at each station. The growing industries and release of effluents has led to contamination of water in these area. Which is analysed and noted below.

5	Nitrate	0.016	0.02	0.02	0.01
6	Temperature	24.23	24.66	20	23.5
7	Alkalinity	125	193	178	97
8	TDS	78.3	69.3	53.3	46



Conclusion and Discussion

The output of this is that the fish diversity is not satisfactory. Quality of water is also affected due to which the fish production in this area is also found to be depleted because of anthropogenic activity. Many industries, warehouses & development has increased in this area. This led to the low income of the fisherman due to which they are involve in non-fishing activity. Which has reduced fishing zone in this area. Thus to uplift this sector and fishing, fish production, condition of fisherman, proper implementation of Government policy, introduction & training of new techniques in fishing should be provided. Such initiative will increase the employment opportunities and will generate good source of income to fisherman.

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