

# Fish Diversity of Pothara dam of Samudrapur Tehsil in Wardha District

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## ABSTRACT

The aquatic ecosystems of the world are important water resources which inhabit a large number of economically important animals especially fish which is a commercially important source of food to man since time immemorial. The Ichthyofauna of a reservoir represents the fish faunal diversity present in that reservoir, which varies from terrain to terrain.

In this context to know the diversity of different commercially important fishes present in Pothara dam located in Samudrapur tehsil of Wardha district studies were made to assess its fish diversity. The study was undertaken for a year from January 2018 to December 2018 to know the fish diversity. Pothra dam is clean water reservoir having abundant fish fauna of varying nature. Frequent visits were given and the caught fishes were studied. The observations reveal occurrence of 17 different species of fishes belonging to 4 different orders and 5 different families. Family Cyprinidae was dominant with 12 species in the reservoir water. The beautiful biodiversity of fishes present in the freshwater reservoir of perennial nature is recorded in present research work.

**Key words:** Pothara Dam, fish Fauna, biodiversity, samudrapur tehsil.

## INTRODUCTION

Maharashtra is one of the leading states for fish production harbouring plenty of natural and man made water bodies, and there is huge scope for developing fisheries in Maharashtra state. The development of fisheries in these fresh water resources needs to be increased for man's needs. Fishes are aquatic vertebrates that breathe through gills. They have great biodiversity in aquatic environment. Fishes are abundant in natural ecosystems.

The Indian fish fauna is represented by Chondrichthyes and Osteichthyes. The class Chondrichthyes is represented by 131 species with 67 genera, 28 families and 10 Orders in the Indian region. The Indian Osteichthyes are represented by 2,415 species belonging to 902 genera, 226 families and 30 orders, of which, five families, are endemic to India [1]. In India, Cyprinidae is one of the largest family of fish.

Fishes are a rich food source and nutrition and became an important and delicious food of man. Fishes provide valuable and easily available source of protein. In addition to serving as an important item of food they provided several products and by product. The fish provides fish oil used in medicinal and industrial use in the life of human beings. Several byproducts are obtained from different parts and waste parts of fishes.

Ichthyofaunal diversity is the wealth of our world [2,3] and it varies based on water quality. A reservoir conserves a rich variety of small and big fish species which supports the commercial fisheries. The fresh water sources like tanks, dams, and lakes contains about 20,000 fish species in the world of which about 2179 species are found in India. Various researchers have studied fishes of India [4 to 22] on rivers, dams and lakes.

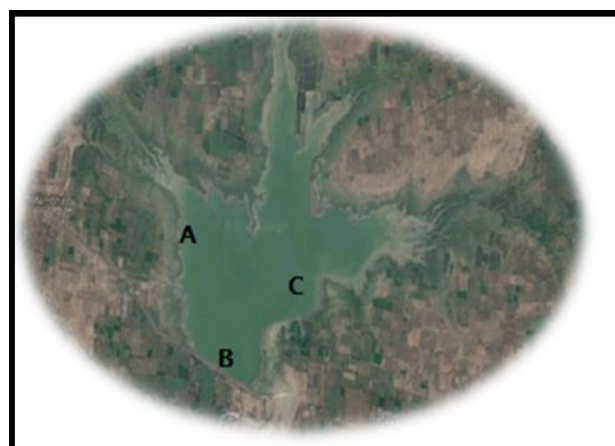
After going through exhaustive literature survey we came to know that no fish landing data is available for a freshwater dam of Pothara located in Samudrapur tehsil of Wardha district till date. In this context the present research work was undertaken to analyze the

types of commercially important fishes present in dam water during January 2018 to December 2018.

## METHODOLOGY

Pothara dam is a perennial freshwater earthfill dam built on river Pothara near Hinganghat town of Wardha district, in Maharashtra state. The height of dam is 14.2 mts and length 2,20 mt. Total volume is 318 km<sup>3</sup> and storage capacity is 38,400 km<sup>3</sup>. This dam is built mainly for irrigation purpose. Its natural beauty is the main cause of tourist attraction.

For the present study, three sampling sites A, B, and C were selected on Pothara Dam. Site A is area near agriculture field, site B is near spillway of dam while, site C is mostly preferred for fishing by fisherman (Fig. 1).



**Fig. 1 : Sampling Sites of Pothara Dam**

The fishes were collected from local fishermen during the time of fishing by using different type of nets gill nets, cast nets, dragnets and bhor jal from spot A,B, and C. Fishes were brought to laboratory and preserved in 10% formalin solution in separate specimen jars according to the size of species. The identification of fishes was done on the basis of standard literature [2, 3].

## RESULTS AND DISCUSSION

In the present research work 17 different species of fishes belonging to 4 different orders and 5 different families are found to be seen and recorded in Table 1.

Table 1. Diversity of Fish Fauna in Pothara Dam.

| Sr. No. | Order         | Family       | Species                        |
|---------|---------------|--------------|--------------------------------|
| 1       | Anguiliformes | Anguillidae  | <i>Anguilla anguilla</i>       |
| 2       | Clupeiformes  | Notopteridae | <i>Notopterus chitala</i>      |
| 3       | Clupeiformes  | Notopteridae | <i>Notopterus notopterus</i>   |
| 4       | Cypriniformes | Cyprinidae   | <i>Catla catla</i>             |
| 5       | Cypriniformes | Cyprinidae   | <i>Cirrhina mrigala</i>        |
| 6       | Cypriniformes | Cyprinidae   | <i>Ctenopharyngodon idella</i> |
| 7       | Cypriniformes | Cyprinidae   | <i>Cyprinus carpio</i>         |
| 8       | Cypriniformes | Cyprinidae   | <i>Labeo rohita</i>            |
| 9       | Cypriniformes | Cyprinidae   | <i>Labeo bata</i>              |
| 10      | Cypriniformes | Cyprinidae   | <i>Osteobrama cotio</i>        |
| 11      | Cypriniformes | Cyprinidae   | <i>Oxygaster bacaila</i>       |
| 12      | Cypriniformes | Cyprinidae   | <i>Punctius stigma</i>         |
| 13      | Cypriniformes | Cyprinidae   | <i>Punctius sarana</i>         |
| 14      | Cypriniformes | Cyprinidae   | <i>Punctius ticto</i>          |
| 15      | Cypriniformes | Cyprinidae   | <i>Rasbora daniconius</i>      |
| 16      | Siluriformes  | Siluridae    | <i>Wallago attu</i>            |
| 17      | Siluriformes  | Clariidae    | <i>Clarias batrachus</i>       |

Table 2. Sitewise landing data of fish at Pothara Dam.

| Sr. No. | Name of Species                    | Site A   | Site B   | Site C    |
|---------|------------------------------------|----------|----------|-----------|
| 1       | <i>Catla catla</i>                 | +        | +        | +         |
| 2       | <i>Cirrhina mrigala</i>            | +        | +        | +         |
| 3       | <i>Ctenopharyngodon idella</i>     | -        | -        | +         |
| 4       | <i>Cyprinus carpio</i>             | -        | -        | +         |
| 5       | <i>Labeo rohita</i>                | +        | +        | +         |
| 6       | <i>Labeo bata</i>                  | +        | +        | +         |
| 7       | <i>Osteobrama cotio</i>            | -        | -        | +         |
| 8       | <i>Oxygaster bacaila</i>           | -        | -        | +         |
| 9       | <i>Punctius stigma</i>             | -        | -        | +         |
| 10      | <i>Punctius sarana</i>             | -        | +        | +         |
| 11      | <i>Punctius ticto</i>              | -        | -        | +         |
| 12      | <i>Rasbora daniconius</i>          | -        | -        | +         |
| 13      | <i>Notopterus chitala</i>          | +        | -        | +         |
| 14      | <i>Notopterus notopterus</i>       | -        | -        | +         |
| 15      | <i>Anguilla Anguilla</i>           | +        | -        | +         |
| 16      | <i>Wallago attu.</i>               | -        | +        | +         |
| 17      | <i>Clarias batracus</i>            | +        | -        | +         |
|         | <b>Total Fish Species Recorded</b> | <b>7</b> | <b>6</b> | <b>17</b> |

From site A, 7 species of fishes belonging to four families, i.e. family Cyprinidae, Anguillidae, Notopteridae and Clariidae were caught and recorded. Family Cyprinidae was represented by four species namely, *Labeo bata*, *Labeo rohita*, *Cirrhinus mrigla*, *Catla catla*. Family Notopteridae was represented by *Notopterus chitala*, family Clariidae and Anguillidae were represented by single species *Clarias batrachus* and *Anguilla anguilla* respectively (Table 2).

From site B, fish fauna was represented by 6 species belonging to two families i.e. Cyprinidae and Siluridae. They were represented by *Cirrhina mrigla*, *Catla catla*, *Labeo rohita*, *Labeo bata*, and *Puntius sarana* and *Wallago attu* (Table 2).

At Site C, maximum fish diversity i.e. 17 different types of species was recorded which belongs to five different families. Out of 17 species, 12 species belongs to family Cyprinidae followed by family Notopteridae with 2 species, family Siluridae, Clariidae, Anguillidae with each 1 species.

In this study family Cyprinidae shows dominance. Thirty two species in Sina Kolegoan Dam were reported [16]. Six species observed at selected sites of upper stretches of river beas in Himachal Pradesh [15]. Sixty one species of fishes from Harike wetland and these belonging to 17 families, and 35 genera were recorded [4].

The fish faunal diversity changes from reservoir to reservoir depending on water quality, nutrient enrichment, as well as presence and absence of weeds and bottom biota. The physico-chemical conditions also play a major role in it. The present freshwater reservoir is of an oligotrophic type having clear water and very less weeds. Our works were supported by findings of others [9,11,12,16].

The varied and rich biodiversity points out that the water of reservoir is having a rich fish faunal diversity.

**Conflicts of interest:** The authors stated that no conflicts of interest.

## REFERENCES

1. Jagtap HS. Fish Fauna of Himachal Pradesh: A Case Study. International Journal of Scientific Research. 2013; Vol.: 2, Issue 7, 25-28
2. Day F. The fishes of India; being a Natural History of fishes known to inhabit the seas and fresh water of India, Burma and Ceylon, Vol. I and II, 1878; pp XX+778-Pls, CXC.V.
3. Jayaram KC. The fresh water fishes of the Indian Region, 1994; Narendra Publishing House, New Delhi.
4. Dua A, Chander Parkash. Distribution and abundance of fish populations in Harike wet land – Ramsar site in India. J. Environ. Biol. 2009; 30(2): 247-251.
5. Bakawale S and Kanhere RR. Study on the fish species diversity of the river narmada in western zone. Res. J. Animal, Veterinary and Fishery Sci. 2013; Vol. 1(6), 18-20.
6. Bobdey AD. Ichthyodiversity and conservation aspects in a Lake and River ecosystems in Bhandara District of Maharashtra, India: A comprehensive study of surface water bodies. Online International Interdisciplinary Research Journal, 2014; 4(2):103-112.
7. Nilesh KH. Fish diversity studies of two rivers of the Northeastern Godavari basin, India. *Journal of Threatened Taxa* 2009; 1(10), 514-518.
8. Jadhav BV, Kharat SS, Raut RN, Paingankar MM, Dahanukar N. Fresh water fish fauna of Koyana River, Northern Western Ghats, India. *Journal of Threatened Taxa* 2011; 3(1): 1449-1455
9. Jaiswal DP, Ahirrao KD. Ichthyodiversity of the Rangavali Dam, Navapur, District Nandurbar, Maharashtra State. *Journal of Research in Biology* 2012; 2(3):241-245.
10. Johal, MS and Jha, SK. Fish Diversity of Haryana State and its Conservation status. *Fishing Chimes*, 2007; 27(1): 107-108.
11. Kamble AT and Mudkhede LM. Study of fish fauna and productivity of Loni reservoir, Tq. Kinwat (Maharashtra). *International Journal of Biomedical and Advance. Research* 2013; 4(3):155-159.
12. Keshave JV, Ananthan PS, Asha L. Fish diversity and productivity of Isapur Reservoir, Maharashtra State. *International Journal of Biomedical and Advance Research*, 2013; 4(12):865-867.

13. Khekare SS, Sawane AP. Monitoring Water Quality Parameters from Some Freshwater Wetlands of Warora Taluka , Chandrapur District, Maharashtra State : International Journal of Research in Biosciences, Agriculture and Technology, 2015; 1, 237-243.
14. Khekare, SS, Sawane, AP. Ichthyofaunal Diversity of Wardha River in The Vicinity of Warora, Dist. Chandrapur (M.S.) India: International Journal of Research in Biosciences, Agriculture and Technology, 2016; 1, pp.136-139.
15. Kumar A , Khanna DR. Ichthyofaunal diversity in Upper stretches of river beas, Himachal Pradesh, India , *International Journal of Researches in Bioscience, Agriculture and Technology*, 2014; Vol. II, Issue -2, pp 269-275.
16. Humbe A, Jadhav S, Borde S. Diversity of Ichthyofauna from Sinakolegoan Dam Osmanabad District, Maharashtra, *Weekly Science Research Journal*, 2014; Vol. 1, Issue 40, pp 1-5.
17. Mittermeier RA Mitemeir G. Megadiversity Earth's biologically wealthiest nation. In Mc Allister, D.E. A Lttamiltion and B. Harvery (Eds). 2011; Global S.V. Rankhamb /Rec Res Sci Tech 3, 11-1313 fresh water Biodiversity sea wind Cemex, Mexico city," 1997: pp: 1-140.
18. Pawar RH, Patel NG, Patel YE. Review on fresh water fish diversity of Maharashtra (India). *Journal of Entomology and Zoology Studies*. 2014; 2(5): 358-364.
19. Sheikh SR. Studies on Ichthyofaunal diversity of Pranhita River, Sironcha, Dist: Gadchiroli, Maharashtra, India. *International J. of Fisheries and Aquatic Studies*; 2014; 1(5):144- 147.
20. Suresh M.K, Swapnali BL. Diversity, threats and conservation of catfish fauna of the Krishna River, Sangli District, Maharashtra, India. *Journal of Threatened Taxa*; 2014; 6(1):5362-5367.
21. Vats R, Gupta SK. Ichthyofauna of Four District of Northern Haryana. *Journal of Arts, Science & Commerce*. . 2011; Vol. II(4)3-29.
22. Verma D, Kanhere RR. Threatened Ichthyofauna of the river narmada in western zone, *Life Science Bulletin*, 2007; 4(1and2) 17-20.