

## DIVERSITY OF ICHTHYOFAUNA IN WAGHUR DAM NEAR JALGAON DISTRICT (M.S.) INDIA

**\*Patel Y.E., \*Shaikh H.M. and \*\*Patel N.G.**

\*Department of Zoology, H. J. Thim College of Arts & Science College, Jalgaon-425001, (M.S.), India

\*\* P.G .and Research Centre, Department of Zoology, Pratap College, Amalner, Dist. Jalgaon, (M.S.), India.

E-mail: [Yusufpatel70@gmail.com](mailto:Yusufpatel70@gmail.com)

### ABSTRACT

The present study deals with diversity of Ichthyofauna in Waghur dam near Jalgaon district, Maharashtra, during the year 2012-2013. During study 25 species identified which are belongs to 6 orders. The order Cypriniformes was dominant with 15 species, order Channiformes with 4 species, order Siluriformes with 3 species, order Clupeiformes and Perciformes with 2 species, and order Mastacembelliformes with one species. In the study Ichthyofauna population is found abundance and majority of the fishes are used for human consumption. The majority of fishes are major carps like *Catla catla*, *Labeo rohita*, *Cirrhina mirghla*, and common carps like *C. idella*, *Cyprinus carpio*, cat fishes like *Wallago attu*, *M. sighala*, *Clarius batracus* eel fish etc. All these fishes are having good commercial and economic value due to their delicious taste. These studies will be help for the maintenance and regulation of Ichthyofauna and other aquatic ecosystem of the Waghur dam.

**KEYWORDS:** Ichthyofauna, Diversity, Waghur, Jalgaon.

### INTRODUCTION

Inland fisheries show great contribution in the food security of our country. The study of dams, lakes, and reservoirs are play an important role for understanding the ichthyofaunal diversity, their development and sustainability management as a resources for inland capture fisheries. Lakes in India support rich variety of fish species which in turn, support the commercial exploitation of fisheries potential (Krishna and Piska, 2006). Through knowledge of ichthyofaunal resources the availability and distribution of species of fishes in a particular water body help for proper explosion. The basic information and data regards to aquatic ecosystem worked out for evaluation and proper management of dam for fish culture. The development of fisheries in these fresh water resources needs to be increased through the scientific development. Therefore present study is carried out on ichthyofaunal diversity of Waghur dam near Jalgaon in north Maharashtra region. This dam is 27 Km. away from Jalgaon town. The source of water of this dam is chiefly from tributaries of Waghur, Kang and Mor rivers. In the field of ichthyology, the valuable work done by Talwar and Jhingran (1991) Day (1878), Jayaram (1981), Rao et .al.(1999), Joshi and Sakhare (2002), Mahaparta (2003) and Datta et.al.(2003)



**Figure 1. Study area map: Waghur River**

**MATERIALS AND METHODS**

The present study of the ichthyofauna was carried out during the year 2012-2013. Waghur dam is located 27km. away from Jalgaon in east side in North Maharashtra having coordinates of 20.9265685°N longitude and 75.709767°E latitude. Fishes were collected from the different sampling stations of the dam with the help of skilled local fishermen by various fishing crafts, gears with variable mesh size, and preserved in 4% formaldehyde. Identification and classification of fishes was done up to species level on the basis of natural color, pattern of scales, fins, mouth pattern, identification marks like black spot, mark on operculum, paired and unpaired fins and body parts with the help of standard literature of Talwar and Jhingran(1991) Day(1994), Jayaram (1999).


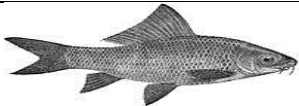

















**RESULTS AND DISCUSSION**

During the present study 25 species belongs to 06 orders, 08 families, and 16 genera of ichthyofauna were reported at four different sampling stations of Waghur dam. The 15 species belong to cyprinidae family which makes 60%, four species belongs to family Channidae constites about 16%, and single species of family Bagridae, Siluridae, Clarridae, Notopteridae, Gobidae, and Mastacembelidae respectively which makes 4% (shown in Table 1).







**Table 1 : Classification of ichthyofauna of Waghur reservoir**

| Class  | Sub Class | Order           | Family     | Genus                     | Species           |                      |                   |
|--------|-----------|-----------------|------------|---------------------------|-------------------|----------------------|-------------------|
| Pisces | Teleostei | Cypriniformes-I | Cyprinidae | <i>Labeo</i>              | <i>rohita</i>     |                      |                   |
|        |           |                 |            | <i>Labeo</i>              | <i>calbasu</i>    |                      |                   |
|        |           |                 |            | <i>Labeo</i>              | <i>fimbratus</i>  |                      |                   |
|        |           |                 |            | <i>Cyprinus</i>           | <i>carpio</i>     |                      |                   |
|        |           |                 |            | <i>Puntius</i>            | <i>ticto</i>      |                      |                   |
|        |           |                 |            | <i>Punctius</i>           | <i>sarana</i>     |                      |                   |
|        |           |                 |            | <i>Puntinus</i>           | <i>parrah</i>     |                      |                   |
|        |           |                 |            | <i>Puntius</i>            | <i>jerdoni</i>    |                      |                   |
|        |           |                 |            | <i>Hypophthalmichthys</i> | <i>molirtix</i>   |                      |                   |
|        |           |                 |            | <i>Catla</i>              | <i>catla</i>      |                      |                   |
|        |           |                 |            | <i>Cirrhinus</i>          | <i>mrigala</i>    |                      |                   |
|        |           |                 |            | <i>Cirrhinus</i>          | <i>reba</i>       |                      |                   |
|        |           |                 |            | <i>Ctenopharyngodon</i>   | <i>idella</i>     |                      |                   |
|        |           |                 |            | <i>Rasbora</i>            | <i>daniconius</i> |                      |                   |
|        |           |                 |            | <i>Tor</i>                | <i>tor</i>        |                      |                   |
|        |           |                 |            | Channiformes-II           | Channidae         | <i>Channa</i>        | <i>gachua</i>     |
|        |           |                 |            |                           |                   | <i>Channa</i>        | <i>marulius</i>   |
|        |           |                 |            |                           |                   | <i>Channa</i>        | <i>punctatus</i>  |
|        |           |                 |            |                           |                   | <i>Channa</i>        | <i>striatus</i>   |
|        |           |                 |            | Siluriformes-III          | Bagridae          | <i>Mystus</i>        | <i>seenghala</i>  |
|        |           |                 |            |                           | Siluridae         | <i>Wallago</i>       | <i>attu</i>       |
|        |           |                 |            |                           | Clarridae         | <i>Clarius</i>       | <i>battratus</i>  |
|        |           |                 |            | Clupeiformes-IV           | Notopteridae      | <i>Notopterus</i>    | <i>notopterus</i> |
|        |           |                 |            | Perciformes-V             | Gobidae           | <i>Anabus</i>        | <i>giuris</i>     |
|        |           |                 |            | Mastacembeliformes-VI     | Mastacembelidae   | <i>Mastacembelus</i> | <i>armatus</i>    |

Table- 2: Shows Photographs of Ichthyofauna of Waghur Dam

| Family        | Scientific Name of the Species   |  |   |
|---------------|--|--|---|
| 1. Cyprinidae | <br><i>Labeo rohita</i>                 | <br><i>Labeo calbasu</i>         |   |
|               | <br><i>Labeo fimbriatus</i>             | <br><i>Cyprinus carpio</i>       |   |
|               | <br><i>Puntius ticto</i>                | <br><i>Puntius sarana</i>       |   |
|               | <br><i>Puntinus sarana</i>              | <br><i>Puntius Jerdoni</i>      |   |
|               | <br><i>Hypophthalmichthys molitrix</i> | <br><i>Catla catla</i>         |   |
|               | <br><i>Cirrhinus mrigala</i>          | <br><i>Cirrhinus reba</i>      |   |
|               | <br><i>Ctenopharyngodon idella</i>    | <br><i>Rasbora daniconius</i> |   |
|               | <br><i>Tor tor</i>                    |  |   |
|               | 2. Channidae   | <br><i>Channa gachua</i>        | <br><i>Channa marulius</i> |
|               |  | <br><i>channa punctatus</i>     | <br><i>Channa striatus</i> |

**Table- 2: Continued....**

| Family             | Scientific Name of the Species  |
|--------------------|---|
| 3. Bagridae        | <br><i>Mystus seenghala</i>        |
| 4. Siluridae       | <br><i>Wallago attu</i>            |
| 5. Clarridae       | <br><i>Clarias batrachus</i>       |
| 6. Notopteridae    | <br><i>Notopterus notopterus</i>  |
| 7. Gobidae         | <br><i>Anabus giuris</i>         |
| 8. Mastacembelidae | <br><i>Mastacembelus armatus</i> |

Among all the reported families cyprinidae family is dominant. Similar result was reported by Aher *et. al.* (2007). 12 Species from Parbhani district and 11 species belonging to cyprinidae family from Jawalgaon reservoir Solapur district Maharashtra reported by Sakhare (2001). 18 species were found from Ekruckh lake Solapur district where Cyprinidae family is dominant with 8 species, reported by Battul *et. al* (2007), 37 species from Issapur dam district yavatmal where Cyprinidae family is dominant with 20 species Sharma (2008), 87 species under 36 genera belongs to the Cyprinidae family from freshwater of Nepal reported by Khedkar *et.al* (2005), 11 species under 10 genera under the Cyprinidae family from Harsul Savangi dam district Aurangabad (M.S) Shinde *et al* (2009). Major carps viz. *Labeo rohita*, *Cata catla* and *Cirrhina mirghla*, are having good economic and commercial value due to their delicious taste of flesh and economically cheap.

The major carps *Wallago attu*, *Channa Species*, *Clarius batracus* and *Mastacembelus armatus* are abundantly found in all seasons. *H. molitrix*, *C. idella*, *Rasbora*, and *Mystrus seenghala* are moderately found but *Punctius species*, *Notopterus* and *Anabus* are rarely found. The average catch is more in summer and winter as compared to rainy season by local fisherman. During monsoon large amount of fingerlings and small fishes caught by local fishermen that affect the quantity of mature population of fishes. Therefore the regional department of fishery authorities should investigate and suggest the proper guidelines for utilization and management of dam according to ecological principals. They should advise and establish the stocking standards and reasonable introduction according to potential of fish productivity and character of this water body. Scientific fishing standard and fishing allocations are to be worked out; this will play a vital role in fortification of the reservoir and its biodiversity. Thus it is necessity of every individual to play an active role to accomplish the objectives of sustainable fishery development and handover the resources in healthy conditions to the future generations. The work will endow with future strategies for development and fish fauna conservation of Waghur Dam. To maintain Ichthyofaunal diversity has importance as it is not always possible to identify individual species critical to sustain aquatic ecosystem.

### CONCLUSION

It was concluded that further studies may be done to develop techniques for fish culture. The illegal methods of catching the small size fishes during monsoon should be banned to prevent depletion of freshwater fish population by unskilled fishermen. The fisherman must make aware and train about proper knowledge of fishing and scientific training. The spawn, fingerlings and immature fishes should be avoided for catching. Subsidies loan facility may be provided on large scales w to the fish farmers which may help in high yield of fish production in the Waghur dam.

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