

# BIOMASS ASSESSMENT AND PRODUCTION OF FISH SPECIES OF THE BICHHIYA RIVER REWA (M.P.)

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**ABSTRACT:** In the present study an attempt has been made to estimate the fish-production of Bichiya river Rewa for the period Sep2016 to Aug 2017. During study were measured 51 fish species. Dominance species of fishes were *Labeo calbasu*, *Labeo rohita*, *Mystus seenghala*, *Catla catla*, *Cirrihinus mrigala*, *Tor tor*. The total density of Dominance fish species 53.06%. The total fish production were 1'04331 kg in the period of one year.

**KEYWORDS:** - Fish production, River Bichhiya, Rewa (M.P.).

## INTRODUCTION

The population of our country is increasing fast, so it becomes necessary to supplement the food by managing other sources along with the cereals. The fish are economically important group of aquatic vertebrates which is provide food to the mankind. Because of its food value the fishes have attracted the attention of Government as well as individual levels. Fish productivity were studied by Low Mcconnell (1971), Pandey et al. (1975), Jhingran and Gupta (1987) Srivastava (1995), Seyed Ahmad et al. (2011), Siddiqui et al. (2007).

## MATERIALS AND METHODS:-

For the present study 14 station of Bichiya river Rewa were selected in the period of 2016 to 2017. The fish were caught by local fishermen by operating cast nets & drag nets during the study and identified with the help of literature Day (1878), Gopalji Srivastava (1980), Jayram (1981). Weekly surveys of fish market of selected villages were yield data to estimated fish productivity. Biomass of species are measured by the following methods- According to Santhanam et al. (1989) & Ricker (1975).

## Population Density of Fishes

$$= \frac{\text{No. of Fishes A}}{\text{Total Species}} \times 100$$

Where "A" is Dominant Species According to Santhanam et al. (1989) & APHA (1998).

## Relative Dominance

$$\frac{\text{Biomass of Species A}}{\text{Biomass of all Species}} \times 100$$

## RESULT & DISCUSSION:

In the present investigation, a total number of 51 fish species were recorded over a period of one year. Population density of fishes were noted as: *Catla catla* 10.21 %, *Labeo rohita* 7.13 %, *Labeo calbasu* 10.28 %, *Cirrihinus mrigala* 10.12 %, *Mystus seenghala* 10.05 % *Tor tor* 5.27%. The total density of Dominance fish species 53.06 % (Table -1). The most dominance species in the river Bichhiya river were *Labeo calbasu*, *Labeo rohita*, *Mystus seenghala*, *Catla catla*, *Cirrihinus mrigala*, *Tor tor*. The maximum weight of *Labeo calbasu* was recorded 8 kg., *Labeo rohita* 6 kg., *Mystus seenghala* 8.5 kg., *Catla catla* 8.5 kg., *Tor tor* 9 kg., *Cirrihinus mrigala* 10 kg., in this period.

The Relative Dominance production of fishes were *Labeo calbasu* 9.96 %, *Labeo rohita* 8.84 %, *Mystus seenghala* 9.77 %, *Catla catla* 7.80 % *Cirrihinus mrigala* 9.56 %, *Tor tor* 8.85 % were record. (Table-2). During the period Relative Dominance production of Dominant fish species was 54.78 % and 45.22 % Relative Dominance production of other species.

CIFRI in the 1960s from selected stretches of the river Ganga, Brahmaputra, Narmada, Tapti, Godavari & Krishna fish yield from these rivers ranged from 0.64 to 1.64 tones / km, with an average of 1 tones / km.

Jhingran and Gupta (1987) have further appraised with the fact that in the middle and lower stretches of the Ganga, the average total yield has declined from 50.3kg/ha/year from pre 1961 to 22.0kg/ha/year in the post 1972. The average yield rate of major carp dropped from 13.3 kg/ha to only 4.6 kg/ha/yr with lower yields of

*Cirrihinus mrigala*, *Catla catla* and *Labeo rohita* and an upward trend in the yield of *Labeo calbasu* was recorded for the same period.

Sugunan (1997) reported that fish yield in Indian rivers ranges from 0.64 to 1.64 tone/km. (average 1.0 tone/km) with 3.2 to 7.8 fishermen / km. In the Ganga River, yields declined from 50.3 kg/ha/year (1960).

Seyed Ahmad et al. (2011) studied the fish production and biomass in wetland Shadegan were estimated 137 (kg/ha/year) and winter 244 kg. /ha/year) respectively.

It is apparent from the above discussion that due to the increasing water level of river Bichhiya the fish density has increased but due to the lack of fishing apparatus for fishermen. Catching is on the decrease but the gross production is increased because of increase in size of catch. It certainly indicate that if better crafts & Equipment's are used the gross production will improve on a large scale.

**Table – 1 Population Density of fishes in river Bichhiya 2016-2017**

S. No	Species	Population Density
1	<i>Catla catla</i>	10.21%
2	<i>Labeo rohita</i>	7.13%
3	<i>Labeo calbasu</i>	10.28%
4	<i>Cirrihinus mrigala</i>	10.12%
5	<i>Mystus seenghala</i>	10.05%
6	<i>Tor tor</i>	5.27%
<b>Total</b>		<b>53.06%</b>

**Table – 2 Average Mean Production of Dominance fishes in Bichhiya Rewa 2016-2017**

S. No	Species	Production of Fish / Total Production of all species x 100	Relative Dominance Production
1	<i>Catla catla</i>	8148 / 104331 x 100	7.80%
2	<i>Labeo rohita</i>	9230 / 104331 x 100	8.84%
3	<i>Labeo calbasu</i>	11429 / 104331 x 100	9.96%
4	<i>Tor tor</i>	9248 / 104331 x 100	8.85%
5	<i>Cirrihinus mrigala</i>	9982 / 104331 x 100	9.56%
6	<i>Mystus seenghala</i>	10197 / 104331x 100	9.77%
<b>Total</b>			<b>54.78%</b>

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