

Population Dynamics of Cyprinid Fish Species (Mahseer: Tor Species) and Its Conservation in Yamuna River of Garhwal Region, India

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Abstract : India is one of the mega-biodiversity countries in the world and contributing about 11.72% of global fish diversity. The Yamuna river is the longest tributary of Ganga river ecosystem, providing a natural habitat for existing fish diversity of Himalayan region of Indian subcontinent. The several hydropower dams and barrages have been constructed on different locations of major rivers in Garhwal region. These dams have caused a major ecological threat to change existing fresh water ecosystems altering water flows, interrupting ecological connectivity, fragmenting habitats and native riverine fish species. Mahseer fishes (Indian carp) of the genus *Tor*, are large cyprinids endemic to continental Asia popularly known as 'Game or sport fishes' have continued to be decimated by fragmented natural habitats due to damming the water flow in riverine system and categorized as threatened fishes of India. The fresh water fish diversity as 24 fish species were recorded from Yamuna river. The present fish catch data has revealed that mahseer fishes (*Tor tor* and *Tor putitora*) were contributed about 32.5 %, 25.6 % and 18.2 % in upper, middle and lower riverine stretches of Yamuna river. The length range of mahseer (360-450mm) recorded as dominant size of catch composition. The CPUE (catch per unit effort) of mahseer fishes also indicated about a sharp decline of fish biomass, changing growth pattern, sex ratio and maturity stages of fishes. Only 12.5 - 14.8 % mahseer female brooders have showed only maturity phases in breeding months. The fecundity of mature mahseer female fish brooders ranged from 2500-4500 no. of ova during breeding months. The present status of mahseer fishery has attributed to the over exploitative nature in Yamuna river. The mahseer population is shrinking continuously in down streams of Yamuna river due to cumulative effects of various ecological stress. Mahseer conservation programme have implemented as 'in situ fish conservation' for enhancement of viable population size of mahseer species and restore the genetic loss of mahseer fish germplasm in Yamuna river of Garhwal Himalayan region.

Keywords : conservation practice, population dynamics, tor fish species, Yamuna River

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