

The tiger is the largest living cat species that is among the most recognizable and popular of the world's charismatic megafauna. Unlike the tiger that inhabits the jungles, there is an equally majestic tiger that bejewels the waters. It is a large, handsome fish that glows gold as it glides through deep pools of rain and rivers. For the uninitiated, it is Mahseer, the tiger of the freshwater.

Once upon a time, the freshwater species happily thrived in the rapids of the Himalayan and Satpura ranges, besides other rivers and lakes across the country. Soon, the mighty Mahseer fell prey to the greed of man and became the target of fishermen and fishing companies. Of the 35 species of Mahseer in India, five faced the dire threat of extinction.

It was exactly 30 years ago when Tata Power decided to step in to save the ground fish that was literally floating out of the efforts paid off and this year on World Environment Day, the company announced that the Blue-finned (The Khudwee) — one of the two Mahseer species being bred at Tata Power's Wairan Hatchery in Lonavala — is now off the IUCN red list. The IUCN has granted it the status of Least Concern, meaning the species is no longer in danger of being extinct.

The Lesser Mahseer is still on the list, which calls for a greater commitment to helping the endangered species swim out of the red. "The initiative that Tata Power started 30 years ago, now has begun to succeed like a tree," says Vishal Vishwasrao, Head of Biodiversity, Tata Power.

Mahseer and ecological balance
Rudhish

Chawan, Head — The "red list" doesn't agree more with Vishwasrao on Mahseer's importance for riparian ecology. "Mahseer is equated with the tiger. Its name comes from mahi means fish and shere from tiger. There are about 15 species of Mahseer in India some classified as endangered. They are ornamental and a source of food, making them an indicator of river ecology and water security," he says.

River ecologist and conservationist Driven Bhatnagar North Malabar, who is currently engaged with WCS India, has been relentlessly working in aqua ecology and conservation of Mahseer fish with the Anasa Kurubo, a freshwater

swimming tribe in the Western Ghats for which she also received The Habitat Trust's 'Conservation Hero Grant' in 2018.

Mahseer, who is working on a project titled, Riparian Habitat Conservation along the Coavary river in Coorg district, says, "Mahseer are large bodied fish, belonging to the family Cyprinidae or carps, so they are commonly referred to Mahseer are considered indicator species of freshwater streams and rivers, which means that any habitat altering influences, especially through anthropogenic stressors, can affect the survival of the species." She highlights how Mahseer's semi-aquatic and arboreal life makes it possible role in soil dispersal of important species of riparian flora.



Mahseer, the tiger of the freshwater!

Blue-finned is out of the red

Today, Mahseer, the tiger of the freshwater, is more recognised as a hot topic for research, conservation and community outreach, and calls for more active participation of all the stakeholders to pull it out of the endangered list. Shilpi deep dives to find more about the efforts that went into saving Mahseer



Students get a look at Mahseer in school



Various efforts are being undertaken for Mahseer conservation

ecosystem of freshwater ecosystems."

Conservation measures

Mahesh explains how there have been several recommendations and attempts to promote Mahseer as a 'Flagship species' in charismatic animal that promotes awareness, similar to the recent rise of tigers as 'Flagship species'. "While tiger conservation is receiving attention at the landscape level, Mahseer conservation can bring the same level of importance to riverscapes," she says.

But Mahseer conservation, although in need of attention is not something new in India's cultural religious context. Revered in various forms, includ-

ing an incarnation of Lord Vishnu, Mahseer fish have been protected since time immemorial in many temples, along the rivers in India.

"Community fish sanctuaries, are more common in the North East. For instance, Meghalaya is known for its customary management and protection of fish populations, passed down from indigenous knowledge and generation of sustainable management of natural fishery resources. Conservation NGOs and eco-tourism based recreational angling groups, also play a vital role in the conservation of Mahseer, with further scope for recognition," she adds.

Chawan explains how conservation efforts are still a mixed bag. "There are good conservation initiatives that are bringing Mahseer back from extinction but overall it is a worry. The inherent biology of Mahseer (long maturity, low fecundity, and long hatching period) along with habitat destruction, overfishing, and pollution make it difficult for the species," he says.

Vishwasrao highlights the importance of learning the freshwater ecology to understand the role of Mahseer conservation, seeks concerted efforts at the livelihood and organisational level to reduce water pollution and calls for community stewardship and collaboration by the organisations and NGOs the visible results in this direction.

Applauding the efforts taken by Tata Power, Chawan says, "Tata has set an example of what industry can do. Academic institutions need to do more ecological work on the biology of streams that Mahseer occupy. The list is long, so pick the best way to contribute."

Catching them young

According to Vishwasrao, managers for Mahseer conservation must include more naturalising grounds, changes in fishing practices and encouraging community participation to make this project for a long time.

"Since its inception, Tata Power's Mahseer initiative has been conducting various activities for youngsters under their 'Club Earth' initiative. These include exercises that raise awareness about the gorgeous Mahseer. The idea is to encourage children to learn about an important aspect of their ecology, while also educating the slightly older kids into enjoying the sport of fishing the Mahseer, and then letting them 'let the water'," says Vishwasrao.

"These activities took well for Mahseer. Mahesh attributes the growing awareness towards Mahseer, outside of regions they are found in, to coverage in the media, and efforts of groups and individuals working towards re-orientation of the species. The tiger of the freshwater is not more recognised as a hot topic for research, conservation and community outreach. One of the recent initiatives included an organisation collaborating with a group of artists to create a Mahseer installation made out of recycled material, with a walk through gallery filled with Mahseer, freshwater

fish, habitat images and information in the school. It got people from all walks of life to take an interest in freshwater fish and rivers, which receive little to no attention," she says.

Stressing on the need for intensive and concerted efforts for the conservation of Mahseer as these are widely distributed and though there are several threats, Chawan adds that some of the critical threats need to be identified and specific conservation programmes need to be implemented."

Mahesh urges civil society groups and NGOs to be more vocal about sustainable land use along rivers to ensure pollution and activities that disturb the ecosystems are not taking place, giving rivers and their fish populations a better chance for survival. "Mahseer conservation requires a state' river wise plan, with the demarcation of important Mahseer habitats to focus on. What we need is funding not just for Mahseer but a holistic approach to wards Mahseer conservation, which includes the entire river habitat. Organisations and institutions need to support more individuals in the field to carry out research, outreach and conservation interventions, such as on research and restoration where required," says the river ecologist.

Tourism prospects

Tata Power that has been involved in the field of breeding Mahseer for 30 years and rearing is elated at the outcome of its untiring efforts. "Unlike typical corporate practice, success in this sector is measured in meaningful changes in fishing practices and encouraging community participation to make this project for a long time. Rivers and lakes that were once bereft of the Mahseer are now teeming with them after hatchlings introduced from the Wairan hatchery have started breeding and increasing. Mahseer are also now being increasingly sighted at various points by wild anglers," says Vishwasrao.

Mahesh sees a great role of potential for Mahseer tourism in the country. "We already have fish sanctuaries, where tourists and religious devotees visit. The unexplored synergy with the eco-tourism industry, with catch and release (CLR) recreational angling. Sustainable tourism has been proven as a great source of revenue generation for local communities, while monitoring and generating fish populations, through strictly enforced guidelines and rules," she adds.

However, Chawan agrees that there is, but one must be careful. "Tourism is a double-edged sword. Poorly designed and implemented tourism models can ruin not just Mahseer but also disturb, if not destroy, river ecology and water security," he says.