Wild population of Mekong **giant catfish** faces **new challenge**

By Roger Mollot*

Mainstream dams in the Lower Mekong Basin could lead to the extinction of a flagship species from the river

The Mekong giant catfish, *Pangasianodon gigas*, is endemic to the Mekong Basin and an exceptional example of its unique biodiversity. Growing up to three meters in length and over 300 kg in weight, this largely herbivorous giant has a historical range from the Mekong Delta in Viet Nam all the way upstream into Yunnan province of China. This long-distance migration is believed to be part of the life cycle requirements to find suitable feeding, spawning and nursing habitats.

As part of these long-distant migrations the Mekong giant catfish utilises a range of habitat types, including deep pools and rapids. The reliance on a number of different habitats, combined with the unique characteristics of its immense size and cultural significance, leads many to regard the fish as a flagship species for the Mekong River Basin.

While there is limited understanding of the ecology and migration behaviour, it is understood that the wild population of the Mekong giant catfish has declined drastically due to excessive fishing pressure. Its current range is believed to have been reduced as wild stocks have declined, and many of the historical fishing grounds are no longer utilised by fishers in search of this mythological creature (see Hartmann, 2008).

Today there is increased awareness and interest on the part of the fisheries agencies of the region to

A Mekong giant catfish captured in Chiang Khong district in northern Thailand by the Mekong Giant Catfish Fshermen's Association of Chiang Khong
Photo: Suthep Kritsanavarin

collaborate on the management and protection of the wild stocks in the Mekong River. Monitoring of the by-catch of the Mekong giant catfish in the stationary bag-net fishery of Cambodia has been implemented for several years (Hogan *et al.*, 2004); a Mekong giant catfish tracking project has been implemented in Thailand with collaboration between Japanese and Thai researchers (Mitamura *et al.*, 2008); and a quantitative assessment model to estimate spawner abundance has been developed (Lorenzen *et al.*, 2006). Furthermore, in 2008 government and community representatives from the provinces of Chiang Rai, Thailand, and Bokeo, Lao PDR, discussed a transboundary approach to protect the species. The outcome of this historical transboundary dialogue is the first time that two countries of the Mekong Basin have agreed to set limits on fishing pressure in order to protect the wild stocks.

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But even as the technical capacity to protect the wild stocks increases, the species faces larger threats from an unfamiliar source. Regional energy forecasts have led to a boom in the hydropower industry and the resurgence of mainstream hydropower development plans throughout the Mekong Basin. In addition to the existing mainstream dams in China, up to nine mainstream dams are in the planning or feasibility stage for Lao PDR (www.poweringprogress.org) and two for Cambodia (see pages 6-7).

What are flagship species?

A flagship species is one that is representative of a specific habitat, development issue or environmental cause. Chosen for their vulnerability to specific threats, they often represent an environmental or social cause and serve to attract support for the issue from the general public and policy makers. Successful management and conservation of a flagship species also serves to benefit the status of many other species which share similar habitats or are threatened by similar issues

Any one of these planned dams has potential to cut off the long-distance migration route of the Mekong giant catfish, impact critical habitats like spawning areas, and divide the existing wild population into separate groups above and below each dam. A series of dams would further isolate populations. These impacts are distinct realities that would threaten annual recruitment and the very survival of the species in the Mekong River. While it is impossible to be definitive regarding the ultimate result, most fisheries biologists familiar with the species believe the dams on the mainstream would be the final straw leading to the eventual extinction of the Mekong giant catfish in the Mekong River.

Recruitment

In fisheries the term "Annual Recruitment" refers to the addition of new individuals to the overall population or fish stock. It may also refer to new additions to sub-components, e.g., 'recruitment to the fishery' refers to fish entering the actual fishery, and this is determined by the size and age at which they are first caught.

Source: FAO FishBase (www.fishbase.org)

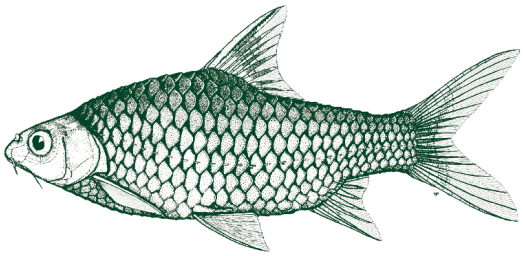
All six countries of the Mekong Basin are parties to the Convention on Biological Diversity, and as such have stated their commitment to the protection of biodiversity and local ecological knowledge through implementation of national biodiversity strategy and action plans. Subsequent legislation in the forms of environment law and fishery law would assist each country in the protection of national biodiversity through legal frameworks.

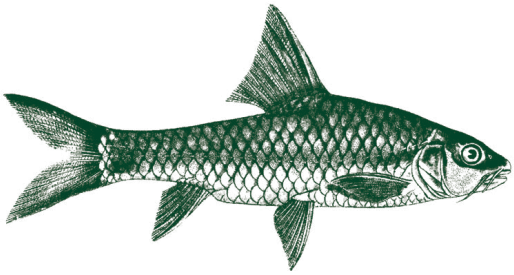
In Cambodia, the Mekong giant catfish is one of 59 species of threatened fish and aquatic animals that are being considered for full protection under the Fisheries Law. In Lao PDR, it is listed as a Category I Restricted Species in the Aquatic Animals and Wildlife Law. Such a listing demonstrates the government's intention to protect the species from becoming extinct in the wild. Category I species are subject to regulations regarding their harvest in order to ensure adequate protection within Lao PDR. Complementary to this, the Department of Livestock and Fisheries is now finalising a draft fisheries law which will further support the management and development of the fisheries sector

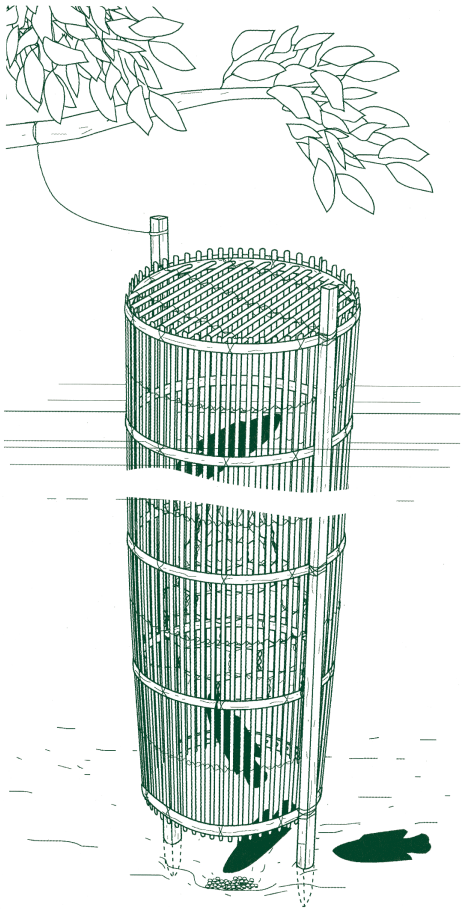
and the protection of aquatic biodiversity in Lao PDR.

With a developing legal framework to manage and protect fisheries and aquatic biodiversity, there is growing concern over the potential conflict arising between hydropower development plans and the obligation of Mekong states to protect the living aquatic resources for the benefit of the people as defined in various legislation. As a flagship species of the Mekong River, the threats facing the Mekong giant catfish from hydropower represent real threats to hundreds of other migratory fish species important to local economy and food security.

Plans for dams on the Mekong mainstream are now being considered in terms of their economic benefits and social and environmental consequences for the people and states of the Lower Mekong Basin. One outcome of the consideration may be whether the Mekong giant catfish will live on for future generations of Mekong communities, or whether this Mekong giant will become a fabled story of the past.







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