

# Giant fish of the Mekong in battle for survival

By Jon Bugge

The Mekong, twelfth longest river in the world, is the habitat of some of the world's largest freshwater fish: the giant catfish, giant carp, and giant stingray.

They are not popular eating fish, but their numbers have declined due to accidental net capture.

Cambodia remains one of the last strongholds of the giant fish. This is in part due to the unique annual cycle of flooding and draining between the Tonle Sap lake and the Mekong, which is responsible for Cambodia's huge fish resources. There are at least 1200 species of fish in the Mekong Basin and only 10 to 20 percent of them form the basis of the fisheries trade.

Cambodians are not surprised by stories of giant fish in the Mekong; for centuries the Naga, a serpent that dwells in the river, has been an integral part of their folklore.

Environmental threats to the Mekong have focused new attention on aquatic biodiversity.

"Conservation in Cambodia is almost entirely terrestrial," says Zeb Hogan, an American fish conservationist who is working with the National Geographic Society to learn more about the giant fish of the Mekong. "We need to see what is in the rivers in order to protect them."

The giant catfish (*Pangasianodon gigas*) is still regularly caught two kilometers north of the Japanese Friendship Bridge in Phnom Penh, where the main river channel is narrow and a prime spot for nets.

The giant catfish can weigh as much as 300 kilograms and may be up to three meters long. The main season these leviathans are caught is between October and December. The giant catfish is not considered good eating but has acquired a god-like status (Khmers call it *trey reach*, the royal fish). It is believed the fish uses either lunar or tidal forces to navigate to its spawning grounds, passing through Phnom Penh on its way.

Between October and March, when the migratory fish species leave the Tonle Sap and swim into the Mekong and upstream, bagnet fisheries are established in the Tonle Sap. They consist of two to six nets spread across the river. Each net can be 100 to 120 meters long with a 25-meter-wide entrance.

The conservation of the giant species is seen as a microcosm of aquatic conservation in Cambodia: if such large animals cannot be protected then there is little hope for smaller creatures. Nao Thuok, Deputy Director of Fisheries at the Ministry of Agriculture, Forestry and Fisheries, says, "As the largest fish in the Mekong, conservation of the catfish is important as an example for all fish."

"The catfish and giant carp (*Catlocarpio siamensis*) symbolize the ecological integrity of the Mekong River," says Hogan. "The catfish migrates out of the Tonle Sap and into the mainstream Mekong in the rainy season; this is common with most Cambodian Mekong fish and as such the protection of this migratory pathway benefits a huge array of fish.

The catfish is no longer caught in other countries through which the Mekong passes. Hogan

says between five and ten are caught annually in Cambodia. He estimates that the population in the Mekong basin has decreased over the last 50 years by 90 percent.

"The giant catfish is one of the most vulnerable species in the Mekong River basin," says Hogan.

The giant catfish was registered as critically endangered by the World Conservation Union this year in 2003.

To raise awareness about the fish's plight a local wildlife NGO, Save Cambodia's Wildlife, Sang Kros Satprey, recently released a book entitled Samnang and the Giant Catfish.

Little hard research has been done on some of the other larger fish. "The lack of research is what is hampering our conservation efforts," Thuok says.

Hogan hopes this will change: "For the 2004 project we hope to include the freshwater stingray and other giant fish species such as the freshwater sawfish, freshwater sharks and the infamous dog-eating catfish." Since 2000 Hogan has been running a buy-and-release research project for the giant catfish that includes a tagging program that is providing insights into the migratory habits of the fish.

The giant stingray (*Himantura chaopraya*) was only discovered in 1987. Considering its four-meter-by-two-meter size it seems odd that it was not discovered earlier. Its preference for deep parts of the river is thought to be the reason it has existed for so long without scientific discovery. Freshwater stingrays inhabit other big rivers, including the Orinoco and the Amazon.

The depth of the river is thought to be the key to the survival of large fish in conjunction with a diverse and complex basin of tributaries. "The survival of these species is the richness of the food in association with the deep pools," Thuok says.

Samnang and the Giant Catfish states that "the deep pools of the Mekong, some of which may be over 60 meters in depth, are important dry-season habitat for fish. Fishermen report that at least 53 fish species live in deep pools."

In Kratie and Steung Treng provinces, in the Mekong 58 deep pools have been identified in a MRC report. Thuok says the total has now increased to 97 deep pools, the deepest being 80 meters. They serve as a dry season refuge for fish, especially the larger ones. But even these pools are vulnerable to human impact.

There are projects under way to blast the river's reefs for commercial navigation as agreed in the Commercial Navigation Treaty between Laos, China, Burma and Thailand. As the Phnom Penh Post reported last year, neither Vietnam, nor Cambodia was consulted about the agreement. Such blasting could affect the flow of the river and thus these crucial deep pools. Such a change in flow could disrupt the migratory patterns of the fish because they are adapted to seasonality.

Hydro-electric dams would also have a large impact on the aquatic biodiversity. Prime Minister Hun Sen in a speech to the Second International Symposium on the Management of Large Rivers for Fisheries, in February 2003, speculated on the possible impacts the commercial navigation plan and damming would have on Cambodia: "The Tonle Sap could dry up; ending the famous river fishing industry and causing widespread flooding, and eventually the home of endangered fish would be destroyed."

Local examples of the ecological impact of dams indicate some ominous trends. A Mekong River Commission report on the impact of the Yali dam on the Sesan River in Ratanakkiri, a tributary of the Mekong, says that due to increased silt the deep pools are shrinking. One specific case study shows that in Voeun Say district within the last three years one pool that was between seven and eight meters deep has shrunk to less than one meter.

"There is no emphasis on the aquatic conservation of the Mekong," Hogan says.

The river has been seen more as a commodity producer than a habitat by the countries involved in its development and management. Its source was only discovered in 1995 in the snowy plateaus of Tibet, one year after the first bridge was completed.

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