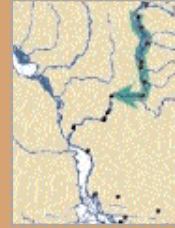


Pangasius sanitwongsei (Smith, 1931)

Order Siluriformes
Family Pangasiidae
Genus *Pangasius*
Species *sanitwongsei*



migration patterns



data stations



Migration patterns for important Mekong fish (28)

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In terms of size and weight, *Pangasius sanitwongsei* is second only to the giant Mekong catfish, *Pangasianodon gigas*. However, at Loei in the upper part of the Mekong, one fisherman reported a *Pangasius sanitwongsei* weighing 300 kg, indicating that the species may, in fact, rival the size of the "real" Mekong giant.

According to the present survey, its distribution range is from the upper Mekong delta near the border between Cambodia and Viet Nam to at least Chiang Saen, near the border between Thailand, the Lao PDR and Myanmar.

Although Rainboth (1996) stated that this species is common in the middle Mekong, upstream from the Khone Falls, there are indications that it is becoming increasingly rare. For example, according to one fisherman near Loei, the species has all but disappeared, whereas previously 11-12 specimens were caught every night during the 30-day peak period during April-May. A Lao fisherman in Ban Don Kho, about 10 km upstream from Pakse, confirmed this information. As a specialist *Pangasius sanitwongsei* fisherman, he often caught about 20 fish per season; however, he said, he no longer sees this species.

Downstream from the Khone Falls, *Pangasius sanitwongsei* is also rare (according to reports by 10 fishermen during the present survey).

Within the whole survey area, two stretches of the Mekong mainstream show clear migration patterns: (a) the stretch from Kompong Cham to the Khone Falls; and (b) the stretch from Loei to Chiang Saen. Stations along the other stretches of the Mekong did not report on the migratory habits of this species. The reason could be that the fish is now so rare that it is difficult to observe any migratory patterns. On the other hand, a fisherman at Khemmaratch in Thailand reported that the species appears to be non-migratory in that area.

From Kompong Cham to the Khone Falls, the species migrates upstream from October to February during receding water levels, and then downstream from June to August during rising water levels. As opposed to many other large pangasid catfishes, *Pangasius sanitwongsei* does not appear to migrate over the Khone Falls. Previous studies in the Khone Falls area support this observation (Baird, 1998; Singanouvong et al., 1996b).

The main trigger of these migrations is changes in water level (or associated factors such as rainfall and water colour). Only one station, near Phnom Penh, mentioned a lunar effect, with upstream migrations occurring during receding water levels just before a full moon. More reports are needed before lunar effects on migration patterns can be confirmed for *Pangasius sanitwongsei*.

Below the Khone Falls, juveniles of 4 to 6 cm were reported from Kratie and downstream to the upper part of the Mekong delta. In Viet Nam, the maximum reported size was 14 cm. Above the Khone Falls, juveniles of 4-6 cm were reported from Loei, Nakhon Phanom, Thakhek and Ubon Ratchatani. Upstream from Loei, no juveniles were reported.

Hypothesis:

Pangasius sanitwongsei encompass two distinct sub-populations in the Mekong mainstream. One population occurs along the stretch from the upper Mekong delta (i.e., just downstream of the Cambodian-Vietnamese border) to the Khone Falls. The other population is confined to the Mekong mainstream above the Khone Falls, but is mainly distributed along the stretch from Vientiane to the border between the Lao PDR, Thailand and Myanmar.

Both sub-populations spawn in the upper sections of their respective stretches during May to July. Larvae and juveniles drift downstream until they reach their nursing areas. The southern population (below Khone Falls) migrates upstream at the end of the flood season, triggered by receding water levels.

Pangasius sanitwongsei is one of the few pangasid catfishes that does not migrate over the Khone Falls. However, it is caught at Ban Hang Khone just downstream from the Khone Falls (Baird, 1998; Singanouvong, 1996b), where it presumably preys on migrating fish, especially small cyprinids undertaking their dry-season upstream migrations.

The onset of the monsoon season and associated rises in the water level in the Mekong trigger the migration of *Pangasius larnaudiei* to as yet unidentified spawning grounds where it spawns from May to August. The occurrence of 6-cm juveniles indicates that spawning takes place somewhere further upstream. Below the Khone Falls, juveniles are only recorded from Kompong Cham to the Mekong delta, indicating that spawning takes place somewhere further upstream, above and/or just below the Khone Falls (e.g., from Kratie to Stung Treng).

Juveniles and adults move into the flooded areas and return to the Mekong River when water levels start to recede at the end of the monsoon season. Some of the bigger individuals, especially in the upper sections of the Mekong, may remain in the main channel during the monsoon season.