The Purchase and Release of Two Endangered Species: Mekong Giant Catfish (Pangasianodon gigas) and Giant Barb (Catlocarpio siamensis) by Zeb Hogan¹, Ngor Pengbun², and Nicolaas van Zalinge³

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ABSTRACT

Mekong Giant Catfish (Pangasianodon gigas) and Giant Barb ((Catlocarpio siamensis) are regularly caught in small numbers in the bagnet or dai fishery in the Tonle Sap River near Phnom Penh. The fishery operates from October until March. Most of these giant fish are caught from the end of October until the beginning of December. In 2000, a buy-and-release project was started to help conserve the two species. In addition, the Mekong Giant Catfish were tagged. The first season’s results are presented here.

1. INTRODUCTION

The Mekong Giant Catfish (Pangasianodon gigas Chevey) is a Mekong endemic (Rainboth, 1996). It is one of the largest freshwater fish in the world, measuring up to 3 m in length and weighing in excess of 300 kg (Hogan, 1998). Recently, the Mekong Giant Catfish has gained recognition because of the increasing threat to its survival posed by human activity. Despite being listed as an endangered species, the Mekong Giant Catfish is still caught and sold for meat in Cambodia, Laos, and Thailand. Because of its high profile, Kottelat and Whitten (1996) propose that the Mekong Giant Catfish be used as a flagship species to promote the conservation of freshwater habitats in Asia.

Information on the range of Mekong Giant Catfish migrations is lacking (Hill and Hill, 1994; Roberts and Warren, 1994; Baird, 1996). Anecdotal evidence suggests that Mekong Giant Catfish once migrated from Phnom Penh to southern China, a distance of almost 2,000 km. Adult Mekong Giant Catfish are caught in October and November in Cambodia. At this time, the fish are moving out of the flooded areas and into the mainstream of the Mekong River. These fish may migrate upstream into Laos, Thailand, or China to spawn. Spawning fish are encountered in Northern Thailand in April and May, but it is not possible to say whether or not these are the same fish that occur in Cambodia earlier in the year. The problem is to determine whether or not Cambodian fish and Thai fish represent distinct stocks or one population migrating together to a common spawning site.

2. BACKGROUND

In Cambodia, the Mekong Giant Catfish and another endangered species, the Giant Barb (Catlocarpio siamensis), are incidental catches of the Tonle Sap dai fishery. In 1999, four Mekong Giant Catfish were caught. All of the fish were captured just outside Phnom Penh in dai row #2. Traditionally, dai row #2 catches the greatest numbers of Mekong Giant Catfish and Giant Barb. The river is deeper and narrower at this site, causing the current to flow swiftly. The fast current sweeps this large fish into the bagnet and makes it difficult for it to escape.

In Chiang Khong, Thailand, the Mekong Giant Catfish is the basis of a small but profitable fishery. Capture of the giant fish, which has gained almost mythical status in Thailand, is a boon to the local economy, bringing in revenue from the tourists who visit the area each year. Fishermen take turns setting impassable, cross-channel nets. One fish can be sold for as much as $2,000. The catch has declined in recent years, however, down from 60 individuals ten years ago to just four individuals in 2000. Chiang Khong, Thailand, and the Tonle Sap in Cambodia appear to be the last two places where Mekong Giant Catfish are captured in appreciable numbers.
3. SPECIFIC OBJECTIVES

Objective 1. To purchase the endangered species *Pangasianodon gigas* and *Catlocarpio siamensis* for release into the wild.

Objective 2. To tag *Pangasianodon gigas* and other threatened species.

4. METHODS

Beginning in October 2000, the Cambodian Department of Fisheries gave the order to report the endangered species, Mekong Giant Catfish and Giant Barb, captured in the *dai* fishery. The Project for the Management of the Freshwater Capture Fisheries of Cambodia monitored the *dai* fishery to record the capture. Captured fish were photographed, weighed, and measured. Live Mekong Giant Catfish were tagged with an external Floy tag of the Spaghetti type and released.

To confirm whether or not fish tagged in Cambodia are recaptured in northern Thailand, we will contact the Thai Department of Fisheries and ask them to check for tagged fish in Chiang Khong, Thailand. The Thai Department of Fisheries grants fishermen permission to catch Mekong Giant Catfish in northern Thailand, and, in return, the fishermen allow officials from the Fisheries Department to extract eggs and sperm from some specimens. In this way, the Thai Department of Fisheries examines each fish caught at Chiang Khong.

5. RESULTS

**Table 7.1: Mekong Giant Catfish caught in the *dai* fishery, October–December 2000**

<table>
<thead>
<tr>
<th>Date</th>
<th>Dai unit</th>
<th>Weight (kg)</th>
<th>Length (m)</th>
<th>Price</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>24-Oct-00</td>
<td>2B</td>
<td>171</td>
<td>2.18</td>
<td>$100</td>
<td>Died</td>
</tr>
<tr>
<td>25-Oct-00</td>
<td>4A</td>
<td>180</td>
<td>300,000 Riel</td>
<td>Died</td>
<td></td>
</tr>
<tr>
<td>28-Oct-00</td>
<td>1B</td>
<td>135</td>
<td>1,600 Riel/kg</td>
<td>Died</td>
<td></td>
</tr>
<tr>
<td>28-Oct-00</td>
<td>1B</td>
<td>185</td>
<td>1,600 Riel/kg</td>
<td>Died</td>
<td></td>
</tr>
<tr>
<td>31-Oct-00</td>
<td>2D</td>
<td>270</td>
<td>Released</td>
<td></td>
<td></td>
</tr>
<tr>
<td>05-Nov-00</td>
<td>2C</td>
<td>170</td>
<td>Released</td>
<td></td>
<td></td>
</tr>
<tr>
<td>09-Nov-00</td>
<td>4A</td>
<td>200</td>
<td>1,600 Riel/kg</td>
<td>Died</td>
<td></td>
</tr>
<tr>
<td>10-Nov-00</td>
<td>1D</td>
<td>160</td>
<td>1,600 Riel/kg</td>
<td>Died</td>
<td></td>
</tr>
<tr>
<td>11-Nov-00</td>
<td>2C</td>
<td>260</td>
<td>1,600 Riel/kg</td>
<td>Died</td>
<td></td>
</tr>
<tr>
<td>26-Nov-00</td>
<td>2D</td>
<td>210</td>
<td>Released</td>
<td></td>
<td></td>
</tr>
<tr>
<td>06-Dec-00</td>
<td>1C</td>
<td>268</td>
<td>2,000 Riel/kg</td>
<td>Released</td>
<td></td>
</tr>
</tbody>
</table>

**Table 7.2: Giant Barb caught in the *dai* fishery, October–December 2000**

<table>
<thead>
<tr>
<th>Date</th>
<th>Dai unit</th>
<th>Weight (kg)</th>
<th>Length (m)</th>
<th>Price</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>07-Nov-00</td>
<td>4D</td>
<td>40</td>
<td>6,000 Riel/kg</td>
<td>Died</td>
<td></td>
</tr>
<tr>
<td>08-Nov-00</td>
<td>5C</td>
<td>42</td>
<td>5,500 Riel/kg</td>
<td>Died</td>
<td></td>
</tr>
<tr>
<td>08-Nov-00</td>
<td>6D</td>
<td>28</td>
<td>4,500 Riel/kg</td>
<td>Died</td>
<td></td>
</tr>
<tr>
<td>19-Nov-00</td>
<td>2C</td>
<td>8</td>
<td>0.74</td>
<td>$127</td>
<td>Released</td>
</tr>
<tr>
<td>19-Nov-00</td>
<td>2D</td>
<td>50</td>
<td>1.34</td>
<td>$76</td>
<td>Released</td>
</tr>
<tr>
<td>20-Nov-00</td>
<td>2C</td>
<td>56</td>
<td>1.36</td>
<td>$86</td>
<td>Released</td>
</tr>
<tr>
<td>20-Nov-00</td>
<td>Neam Fisheries</td>
<td>55</td>
<td>1.25</td>
<td>$84</td>
<td>Released</td>
</tr>
<tr>
<td>21-Nov-00</td>
<td>2D</td>
<td>85</td>
<td>1.62</td>
<td>6,000 Riel/kg</td>
<td>Released</td>
</tr>
<tr>
<td>23-Nov-00</td>
<td>2D</td>
<td>40</td>
<td>Died</td>
<td></td>
<td></td>
</tr>
<tr>
<td>28-Nov-00</td>
<td>Neam Fisheries</td>
<td>120</td>
<td>Died</td>
<td></td>
<td></td>
</tr>
<tr>
<td>03-Dec-00</td>
<td>4C</td>
<td>116</td>
<td>Died</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12-Dec-00</td>
<td>2D</td>
<td>50</td>
<td>Died</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6. SIGNIFICANCE OF RESEARCH

Wild Mekong Giant Catfish may become extinct in the near future (Sretthachuca, 1995). Until more is known about the migration patterns of the species, it is difficult to determine the status of the
population. Despite this uncertainty, fishing for Mekong Giant Catfish continues. In the short term, the purchase and subsequent release of captured wild fish afford this species the greatest chance of survival. In the long term, the tagging of Mekong Giant Catfish may resolve questions about the migratory behavior of the species. As the population of Mekong Giant Catfish declines, so does the opportunity for study.

In terms of the maintenance of brood stocks of Mekong Giant Catfish and Giant Barb, the purchase, capture, and release of threatened species may lead the Cambodian Department of Fisheries to rethink its fishing policy for dai fishery #2. The Cambodian Department of Fisheries will consider whether or not the fishing operations at dai #2 should be suspended. Suspending fishing operations at dai #2 would decrease the chance of capture of endangered fish species.

7. CONCLUSION

The Mekong Giant Catfish is one of the most vulnerable species in the Mekong River Basin, and it occurs naturally nowhere else. Its large size and migratory behavior place the Mekong Giant Catfish at risk from fishing and hydropower development. Populations of other vulnerable species are also declining. The endangered Giant Barb is disappearing from the wild.

The situation is not hopeless, but steps need to be taken to safeguard the Mekong Giant Catfish and other endangered species. The Mekong Giant Catfish is an important and charismatic species. As a flagship species, it symbolizes the ecological integrity of the Mekong River and other freshwater ecosystems in Asia. This said, the extinction of the Mekong Giant Catfish would be tragic indeed.

8. REFERENCES


Figure 7.1: Giant Barb caught in the dai fishery on 21 November 2000, 85 kg, 1.62 m (Photo Ngor Peng Bun)

Figure 7.2: Mekong Giant Catfish caught in the dai fishery on 24 October 2000, 171 kg, 2.18 m (Photo Ngor Peng Bun)

Figure 7.3: Releasing a Giant Barb caught in the dai fishery on 20 November 2000, 56 kg, 1.36 m (Photo Ngor Peng Bun)
Figure 7.4: Mekong Giant Catfish being tagged before release
(Photo Zeb Hogan)