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A Preliminary Conservation Action Plan for the Mekong Giant Catfish – A step towards a comprehensive conservation strategy.

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July 2006

Acknowledgements:

The information contained in this preliminary action plan is based on 2 years of consultation with a range of institutions and experts identifying priorities for Giant Catfish conservation. The Mekong Giant Catfish working group (established in Aug 2005) played a critical role in contributing to the conservation priorities identified in this document.

Background and process:

The species conservation action planning process and development of a conservation strategy for the Mekong Giant Catfish was initiated at an inception workshop in Bangkok in August 2005 (MGCCG 2005). Workshop participants agreed to form a joint conservation strategy working group, and outlined a medium-term process to develop an overarching conservation strategy for the Mekong giant catfish. It was felt that building a conservation strategy process around the informal and voluntary cooperation of existing organisations and projects would offer the best scope for developing an integrated, overarching strategy. This approach aims to circumvent the political and administrative problems likely to arise in any more formal setup involving multiple organisations with a remit to 'conserve the giant catfish'. By establishing a multi-stakeholder consultative process not 'lead' by any organisation in particular, it was hoped that many organisations will be able to 'buy into' the joint strategy.

Recognizing that a range of institutions are already working on various aspects of giant catfish related issues, the conservation strategy aims to achieve the greatest possible effectiveness of these conservation activities of all stakeholders. This strategy will therefore be based on information exchange and coordination of activities conducted by different organisations; effective use of research to resolve key uncertainties, and effective conservation planning. At the core of this strategy is a series of joint workshops, interspersed with specific research, conservation, and outreach activities by contributing organisations.

Acknowledging the fact of the critical status of the giant catfish, the MWBP placed an emphasis on contributing to priority conservation actions on the ground parallel to the contributing to the development of the Action Plan and long term conservation strategy. The development of the Species Conservation Action Plan, pilot implementation of conservation activities, and review is occurring in phases parallel to the strategy development meetings of the Mekong Giant Catfish Conservation Group.

At the second regional meeting of the Mekong Giant Catfish Regional working group (MGCCG 2006), it was decided that the outcomes of the meeting would be taken as preliminary conservation action priorities. These priorities would form the basis of a preliminary conservation action plan whilst the process of developing a joint conservation strategy for the Mekong Giant Catfish continues. Therefore, what the MWBP was referring to as a SCAP is essentially an interim conservation strategy highlighting priority actions, key institutions to lead on the relevant actions and identifying key information gaps that would contribute to the process of completing the conservation strategy that is currently scheduled for March 2007.

The preliminary conservation action plan for the Mekong Giant Catfish

One of the biggest challenges in developing a conservation strategy for the giant catfish is the many ‘unknowns’ that currently exist. For this reason, priority research options were identified.

The December 2005 workshop identified the following as the conservation vision for the action plan and strategy. The core conservation vision or goal incorporates the following elements:

1. The maintenance of a viable wild population of Mekong giant catfish and the restoration of its historical distribution.
2. Maintenance of a genetically representative captive population is crucial as ‘insurance’ against possible (if not likely) extinction in the wild.
3. Maintenance of critical habitats and ecosystem processes in the Mekong basin is clearly important if a wild population is to be maintained. The presumed transboundary migrations and reliance on a variety of habitats of the MGC make it an ideal flagship species for ecosystem conservation in the Mekong. In this context, maintenance of the MGC’s social and cultural importance is in itself a goal of conservation initiatives.

It would be worthwhile noting that the conservation vision above includes elements of a recovery planning process (i.e. with regard to the restoration to its historical distribution). In that regard, several prompting questions that would be critical in a species recovery planning process are raised.

The Conservation Actions/Options identified below (Table 1) are based on a threats assessment and prioritising exercise that was undertaken during the 1st and 2nd giant catfish working group meetings. A number of conservation actions are already being undertaken through existing initiatives/ institutions.

Table 1: Draft Matrix for Research and Conservation Options

Research/Conservation Options	Included in existing projects	Important, included in existing projects	Not important, not in	Not important/not achievable in short-term
Research				
Collation of existing information about giant catfish	Y			
Determination of distribution and abundance in the wild (current, past, age structure) / Field surveys		Y		
Develop population model	Y			
Determine genetic population structure of wild fish	Y			
Migration studies to identify spawning sites and other critical habitat		Y		
Determine level of incidental catch of larval and juvenile fish		Y		
Pond/cage surveys in Cambodia	Y			
Red listing for giant fish species		Y		
Reduction of post-capture mortality	Y	Y		
Economic/catch analysis of dai fishery	Y			
Environmental cues for migration and spawning assessed on captive fish	Y			
Environmental cues for migration and spawning assessed on wild fish		Y		
Development of monitoring strategy				Y
Larval fish sampling for Mekong giant catfish during spawning season		Y		
Valuation study on Mekong giant catfish		Y		
Community-based research and conservation		Y		
Mekong giant catfish diet of wild fish		Y		
Study on survival of Mekong giant catfish fish fry	Y			
Aquaculture survey for hybrids		Y		
Information about historical change in fishing practices		Y		
Development of identification methods for young giant catfish		Y		
Deep pool hydroacoustic survey in Laos		Y		
Wild population conservation				
Establishment of protected areas for giant catfish conservation		Y		
Management of existing protected areas to protect giant catfish		Y		
Special fisheries areas (dai fishery)	Y			
Special river status (north-eastern Cambodia)	Y			
Identification of unknown sources of fishing mortality		Y		
Determination of methods to reduce adult fishing mortality		Y		
Implementation of methods to reduce adult fishing mortality		Y		
Buy and release		Y		
Legal instruments: CBD, CITES, CMS	Y			
Catch quotas				Y
Limit the fishery of giant catfish to every other year and implement a maximum allowable catch of 30 fish				Y
Postpone the start of the giant catfish fishing season		Y		
Species conservation action plan for additional species				Not achievable but giant catfish plan may be relevant to other species
Large fish excluder devices	Y			
Captive breeding & aquaculture				
Broodstock collection from available captive stock	Y			

Research/Conservation Options	Included in existing projects	Important, not included in existing projects	Not important/not achievable in short-term
Genetic and demographic management of captive population	Y		
Testing of wild fish for possible hatchery parentage	Y		
Release of captive fish into Mekong River	Y		
Post-release monitoring to establish behaviour best release size, and habitat		Y	
Aquaculture	Y		
Development of sperm cryopreservation		Y	Difficult to find funding, but otherwise achievable
Habitat and ecosystem management			
Identification of critical habitat		Y	
Flow and migration study, based on MRC flow data/model and Cambodian DoF dai catch/migration data			Y, contact Eric Baran
Tools for habitat management and planning (IRBM, EIA): review and establish relevance to Mgc	Y		
Tonle Sap Lake Biosphere Reserve, community protection area		Y	
Special protected area status for Khone Phi Long and Sob Kok		Y	
Other large-scale approaches (deep pool conservation and relevance of BDP and WUP to fisheries conservation)	Y		
Communication, Networking, and Awareness Raising			
Establishment of Mekong Giant Catfish Working Group	Y		
Workshops to discuss issues relevant to Mekong giant catfish conservation	Y		
Presentation of the progress of the working group at a higher policy level		Y	
Ceremonial release to Mekong River and Reservoir	Y		
Re-opening of Chiang Khong aquarium			
Children's book on fish conservation	Y		
Media outreach to raise awareness		Y	
Fishing ponds as means of awareness and income creation, "watch and eat"			
Mekong giant fish website	Y		

Priority conservation actions, in the context of what is presented in Table 1, are those activities that have been identified by the Giant Catfish Working Group as important but are not included into existing projects. Where possible, group members had identified potential anchors, approaches, funding, and constraints for these activities. These details are provided in Table 2.

Generally speaking, activities related to captive breeding and aquaculture activities, as well as activities related to direct conservation interventions to aid wild populations, have been well integrated into existing projects. Activities related to the study of the ecology and habitat requirements of wild populations were deemed important by the workshop participants, but many such activities are not currently included in existing projects. Therefore, research to inform conservation and management of wild populations stands out as the most important priority for the immediate future. It may also be important to note that both the Darwin Initiative and the Mekong Wetlands Biodiversity Programme

are both projects of limited duration and so measures should be taken to ensure that priority activities continue in the longer term.

Table 2: Priority Conservation Options and Actions

Research/Conservation Options	Lead working group member	Approach, funding, and constraints (ACTIONS)
Research		
Determination of distribution and abundance in the wild (current, past, age structure) / Field surveys	Em Samy, Lieng Sopha	Approaches: Local knowledge interviews (Thailand, Laos, and Cambodia) including information about fishing gears. In the case of Chiang Khong, number of rounds of fishing is better measure than number of boats. The model may help us predict the population size if we have good information about fish catch. Surveys of commercial fishing gears (lots, barrages, and dais) and also raise awareness, and train in handling. Funding: MWBP and possibly Darwin (for fishing gears). Constraints: Staff time and logistics
Migration studies to identify spawning sites and other critical habitat	Zeb Hogan	Approaches: Wild fish may be available in Chiang Khong, but wild fish caught and released in the past have died. If Chiang Khong fish are released the protocol will need to be improved (Chavalit and Senator Tuanjai). Captive fish should be available if the receivers are available as well. There are currently three receivers in the Mekong. It may also be possible to tag in Cambodia but a good source of healthy fish needs to be identified. Funding: MWBP. Constraints: Fish needed to tag. Captive fish behaviour may not be representative of wild fish. Battery life of the tags may not be long enough. The detection range may not be long enough to detect fish. It may not be possible to identify sites for receivers.
Determine level of incidental catch of larval and juvenile fish	N.D.	Approach: Funding: Constraints:
Red listing for giant fish species	Chavalit V	Approaches: Mapping of distribution of giant fish species. The data for the mapping comes from museum records and scientific papers. Data gaps can be filled using local comprehensive local knowledge surveys. Funding: MWBP Constraints: Data is very difficult to collect. Local knowledge data may not be accurate.
Reduction of post-capture mortality	Zeb Hogan, Khun Boonrien, Senator Tuanjai	Approaches: Work through local and central governments to protect giant catfish in Chiang Khong.
Environmental cues for migration and spawning assessed on wild fish	Bunchong, Zeb Hogan	
Larval fish sampling for Mekong giant catfish during spawning season	Bunchong	(Note): There is currently an on-going MRC project
Valuation study on Mekong giant catfish	Devin, Tawachai, Madu (MWBP), Khamphet	Approaches: Valuation as awareness building, working through Funding: Constraints: No money for valuation work. Money is needed to follow up with this activity.
Community-based research and conservation	Khun Boorien and Chiang	Approaches:

Research/Conservation Options	Lead working group member	Approach, funding, and constraints (ACTIONS)
	Khong Conservation Group	
Mekong giant catfish diet of wild fish	N.D.	
Aquaculture survey for hybrids	Naruepon, Uthairat	
Information about historical change in fishing practices	Kai	Approaches: Series of PRA exercises to look at changes in fishing gear and fishing gear use over the past 50 years. Funding: Darwin Initiative but run through the MRC Fisheries Programme. Constraints:
Development of identification methods for young giant catfish	Em Samy, AT/Thai DoF	
Deep pool hydroacoustic survey in Laos	LARReC	
Wild population conservation		
Establishment of protected areas for giant catfish conservation	Tawatchai	
Management of existing protected areas to protect giant catfish	Zeb Hogan, Lieng Sopha	
Identification of unknown sources of fishing mortality	Tawatchai, Em Samy	
Determination of methods to reduce adult fishing mortality	Em Samy, Zeb Hogan, Devin Bartley	
Implementation of methods to reduce adult fishing mortality	Em Samy, Zeb Hogan, Devin Bartley	
Buy and release		
Postpone the start of the giant catfish fishing season	Em Samy, Lieng Sopha	
Large fish excluder devices	Devin Bartley	
Captive breeding & aquaculture		
Post-release monitoring to establish behaviour best release size, and habitat	Thai DoF, Japanese researchers, and MWBP	
Development of sperm cryopreservation	Chumnarn	
Habitat and ecosystem management		
Identification of critical habitat		
Tonle Sap Lake Biosphere Reserve, community protection area	Lieng Sopha	
Special protected area status for Khone Phi Long and Sob Kok	Senator Tuanjai	
Communication, Networking, and Awareness Raising		
Presentation of the progress	Senator Tuanjai	

Research/Conservation Options	Lead working group member	Approach, funding, and constraints (ACTIONS)
of the working group at a higher policy level	(MP meeting) and Sourasay (MRC TAB), Kai Lorenzen	
Media outreach to raise awareness	Senator Tuanjai and Simon Wilkinson	MWBP/MRC office in Laos should work with the media to increase awareness. It is important to work with local media, national media, and international media. Constraints: FAO, MRC, and MWBP may not be able to work easily with the media. MRC and FAO have their own methods of distributing information, usually internally.

In addition to the priority actions identified above there is a need to actively engage and influence regional policy dialogues with regards to water resource development and management in the Mekong. The numerous drivers of change that are surfacing are a particular threat to maintenance of ecological processes in the Mekong.

With reference to Table 3, it is hoped that the 3rd giant catfish working group would be able to fill in the appropriate gaps (i.e. Actions) for some of the important conservation options identified.

Next Steps:

The tables presented in this paper form the basis of the preliminary conservation actions for the Mekong Giant Catfish that have come out of the first and second working group meetings. In developing the long-term conservation strategy, there are further points to consider. This includes a key question – are we developing a conservation strategy or a species recovery plan? The vision statement clearly indicates that the conservation strategy might include elements of species recovery planning. If that is the case, then there are important questions to prepare us for the process. These questions are essentially assessments on the several areas. We may have already addressed some of them.

Biological assessment: What are the recovery implications for the species' demographic/genetic status?

- Is the giant catfish's current biological status more or less conducive to recovery?
- How many extant populations appear viable?
- Are small or isolated populations highly persistent?
- What is the current vs. former distribution of the giant catfish throughout its range?
- Is the giant catfish locally abundant but absent from a large proportion of its former range?
- Can populations be restored in historical locations?
- Is the species declining rapidly? Has it stabilized?
- What intrinsic biological factors are limiting to its recovery?
- Is habitat availability or quality a limiting factor?
- Is much known about the giant catfish's response to management interventions?
- Overall, what is the prospect of the giant catfish being ultimately self sustaining in the wild?

Threats assessment: What are the recovery implications of the threats facing the giant catfish?

- Has all information on threats been collected?
- What threats require the most immediate response and has this been addressed?
- Are the combined effects of multiple threats the primary concern?
- Are some threats (e.g. climate change) beyond the scope of the recovery effort?
- Which threats are rangewide and which are local?
- What is the species known response to the threats facing it?
- If threats to habitat is a key factor, what are the opportunities for protection?
- Overall, to what extent can the threats facing the species be reduced or eliminated?

The MWBP has been a key player in the development of the SCAP. At the 2nd working group meeting discussions revolved around the development of a preliminary conservation action plan for the giant catfish. The outcome of that discussion has been presented above. According to the initial scheduling, Phase B of the MWBP was to commence in July 2006 and would focus on implementation of the activities contained in the conservation action plan. However, due to a change in the GEF resource allocation framework, the possibility of an MWBP Phase B is uncertain at this point of time. Due to this uncertainty, it is critical that the conservation strategy that is being developed through this joint process identifies funding options either through participating institutions or externally for implementation of the priority activities.

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MGCCG (2005) Development of a conservation strategy for the critically endangered Mekong giant catfish: joint inception and planning workshop. Mekong Giant Catfish Conservation Strategy Report 1.

MGCCG (2006) Development of a conservation strategy for the critically endangered Mekong giant catfish: joint inception and planning workshop. Mekong Giant Catfish Conservation Strategy Report 2.



Mekong Wetlands Biodiversity Conservation and Sustainable Use Programme

The Mekong Wetlands Biodiversity Conservation and Sustainable Use Programme (MWBP) is a joint programme of the four riparian governments of the Lower Mekong Basin – Cambodia, Lao PDR, Thailand and Viet Nam – managed by the United Nations Development Programme (UNDP), the World Conservation Union (IUCN) and the Mekong River Commission (MRC), in collaboration with other key stakeholders. With funding from the Global Environment Facility (GEF), UNDP, the Royal Netherlands Government, MRCS, the Water and Nature Initiative (WANI) and other donors, the programme addresses the most critical issues for the conservation and sustainable use of natural resources in the Mekong wetlands. MWBP aims to strengthen the capacity of organisations and people to develop sustainable livelihoods and manage wetland biodiversity resources wisely. It is a five-year (2004-2009) intervention at three levels – regional, national and local – with demonstration wetland areas in each of the four countries: in the Songkhram river basin, Thailand; in Attapeu province in southern Lao PDR; in Stung Treng, Cambodia; and in the Plain of Reeds in the Mekong Delta, Viet Nam. The programme aims to:

- Improve coordination for wetland planning from regional to local levels
- Strengthen policy and economic environments for wetland conservation
- Generate and share information
- Train and build capacity for the wise use of wetlands
- Create alternative options for sustainable natural resource use and improve livelihoods

MWBP is a partnership between governments, aid agencies and NGOs, and provides a framework for complementary work for wetland conservation and sustainable livelihoods in the Lower Mekong Basin.

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