Fish catch monitoring survey: brief analysis of the Fish Catch Monitoring by villagers on both the Thai (Chiang Rai) and Lao (Bokeo) sides of the Mekong

Report

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Vientiane

The Critical Ecosystem Partnership Fund is a joint initiative of l'Agence Française de Développement, Conservation International, the Global Environment Facility, the Government of Japan, the MacArthur Foundation and the World Bank. A fundamental goal is to ensure civil society is engaged in biodiversity conservation. www.cepf.net

Report on fish catch monitoring - Laos

Methodology

8 villages were included in the study in Bokeo from 3 districts (HouayXai, Paoudom and Pakta.

Training in how to use the recording form was provided to all target fishermen by a combination of provincial, district and project staff.

Data on fish catch was recorded once a week for 10 months, May 2010 to February 2011. 1,811 forms were completed.

Key results

57 species of fish were recorded from Houayxai, 35 from Paoudom and 27 from Pakta. There were a total of 79 species from the 3 districts. These are not all river species and indeed not all native, since several villages reported catches from reservoirs, for example of tilapia. Catches were also made in several tributaries as well as the mainstream Mekong, so the results for Laos are not truly comparable with those from Thailand.

A total weight of more than 4,600 kg was caught.

Key species

Top ten fish species in Houaysai district			
Weight in grams	English script version of Lao name	Species name	Comments
1070778	Pa nin	*Oreochromis spp.*	Tilapia, caught in reservoir
334635	Pa pak	*Barbonymus gonionotus*	Native species, but is used in aquaculture

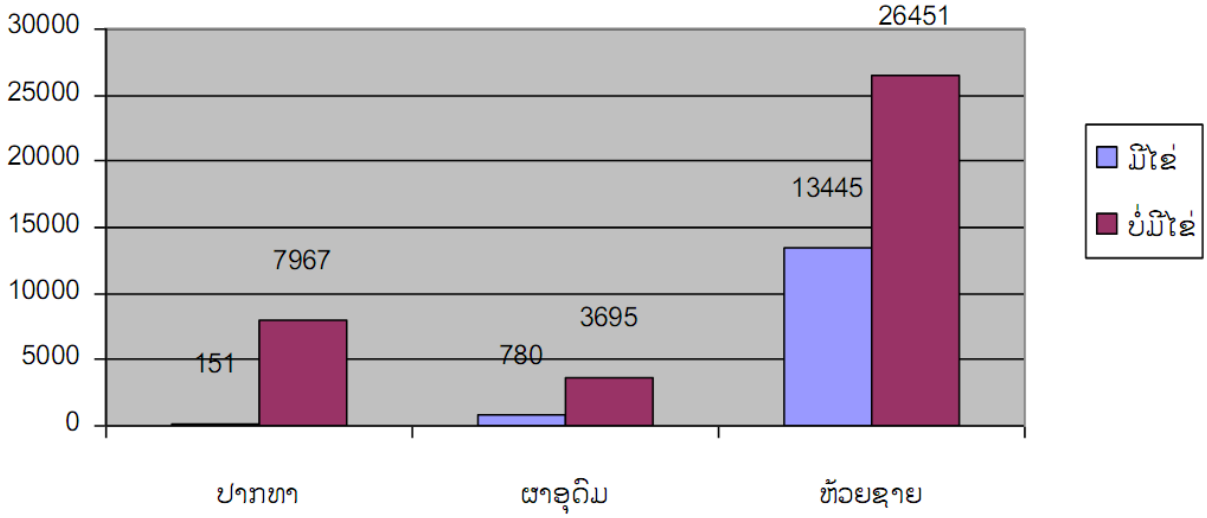
286940	Pa chat	*Poropuntius deauratus*	
161605	Pa lang nam	*Labiobarbus leptocheila*	
132661	Pa soi	*Cirrhinus jullieni*	
109772	Pa khom	*Hampala sp*	
107435	Pa khing	*Osteochilus schlegeli*	
105128	Pa siew	*Rasbora spp.*	
105080	Pa keng	*Cirrhinus molitorella*	
96670	Pa mor	*Henicorhynchus siamensis*	

Top ten fish species in Phaoudom district			
Weight in grams	English script version of Lao name	Species name	Comments
98581	Pa kheung	*Hemibagrus wyckioides*	Given second level protection under Fishery Law, but Red List least concern
80306	Pa pak	*Barbonymus gonionotus*	Native species, but is used in aquaculture
54800	Pa nai	*Cyprinus carpio*	
48595	Pa lang nam	*Labiobarbus leptocheila*	
23620	Pa lat	*Mastacembelus armatus*	
22630	Pa sa kang	*Scaphognathops bandanensis*	
21700	Pa phia	*Morulius chrysophekadion*	
19700	Pa pian	*Puntioplites falcifer*	
18526.5	Pa tong	*Notopteru notopterus, or Chitala spp.*	Lao name has more than one translation
17700	Pa khae	*Bagarius yarelli, Bagaruis spp.*	

Top ten fish species in Paktha district			
Weight in grams	English script version of Lao name	Species name	Comments
477650	Pa lang nam	*Labiobarbus leptocheila*	
111050	Pa phia	*Morulius chrysophekadion*	

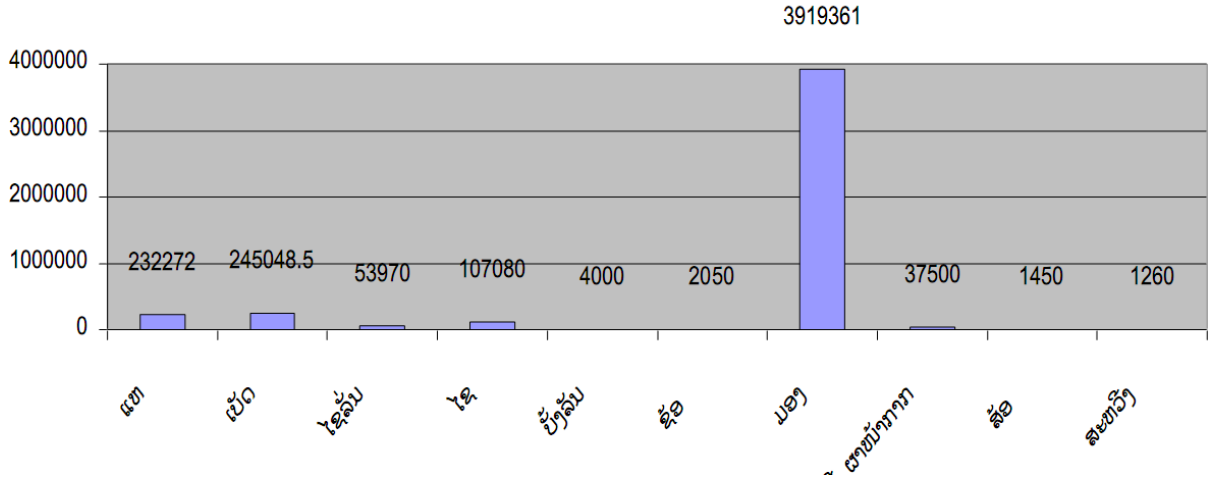
54650	Pa sa ngua	*Micronema apogon*	
44300	Pa fa lai	*Dasyatis laosensis*	If true, the Mekong Stingray – Red listed as endangered, highest level of protection in Lao Fishery Law
30000	Pa khao	*Wallago attu*	
25950	Pa pak	*Barbonymus gonionotus*	Native species, but is used in aquaculture
25020	Pa mang	*Amblyrhynchichthys truncatus*	
22400	Pa kheung	*Hemibagrus wyckioides*	Given second level protection under Fishery Law, but Red List least concern
11300	Pa khae	*Bagarius yarelli, Bagaruis spp.*	
5620	Pa kot	*Mystus nemurus*	Also known as *Hemibagrus filamentus*

Note: If the report of 44kg of Mekong Stingray is correct, this is important. Endangered category on the Red List, highest level of protection under Lao Law should mean that if these are caught, they should be released back to the river. We should not put too much emphasis on this however, since the species can reach 5 or 6kg, so 44kg may only mean less than 10 individuals, and some knowledgeable fish experts have told the author that they don't think the species is as rare as the Red List says.



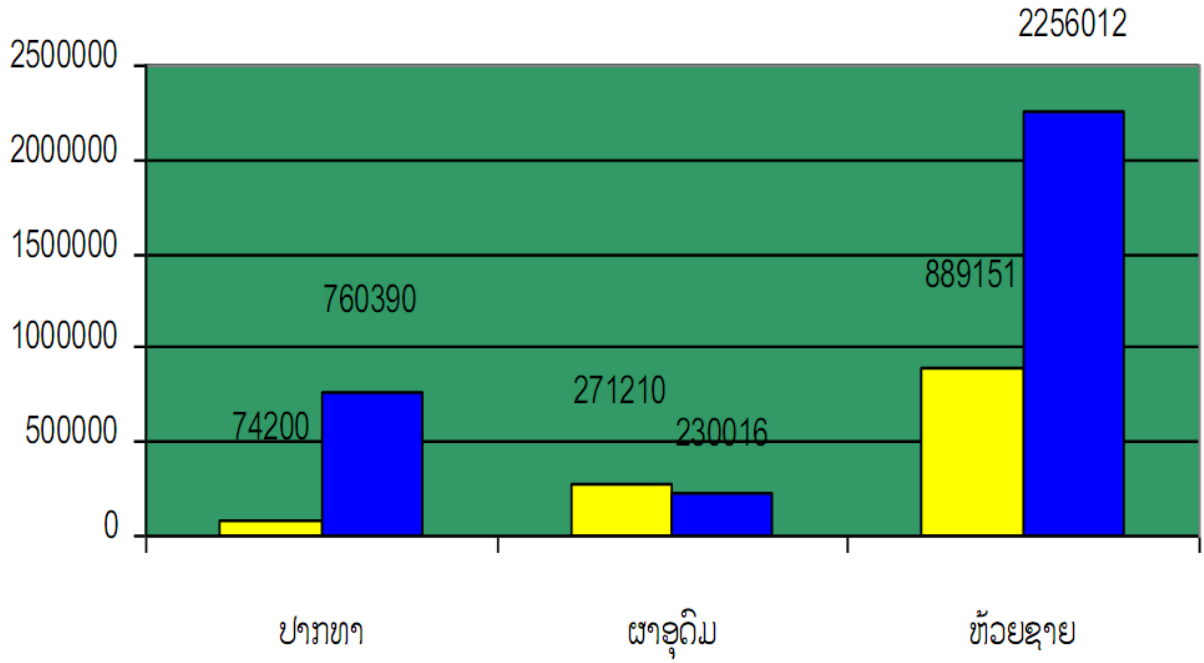
Records were made of whether or not the fish had eggs, indicated as blue in the chart above, with the 3 districts Pakta, Paoudom and Houayxai from left to right. Around 50% from Houayxai had eggs, and most likely were caught in the mainstream.

Gear used most successfully, as in Thailand, was the gill net, by far the largest bar in the diagram below:



Almost 67% by weight of the total fish was caught in these nets; there was almost as much hook & lines fishing as gill netting, but this is a far less productive method, but can be more selective in terms of species.

What did they do with the fish?



Yellow is eat in the family, blue is sell them, with the 3 districts in the same order as before. Houayxai on the right is the provincial centre so there is a much larger market opportunity.

There were some problems with how the recording sheets were used, and that would need to be addressed in any future FCM efforts.

Report on fish catch monitoring - Thailand

Methodology

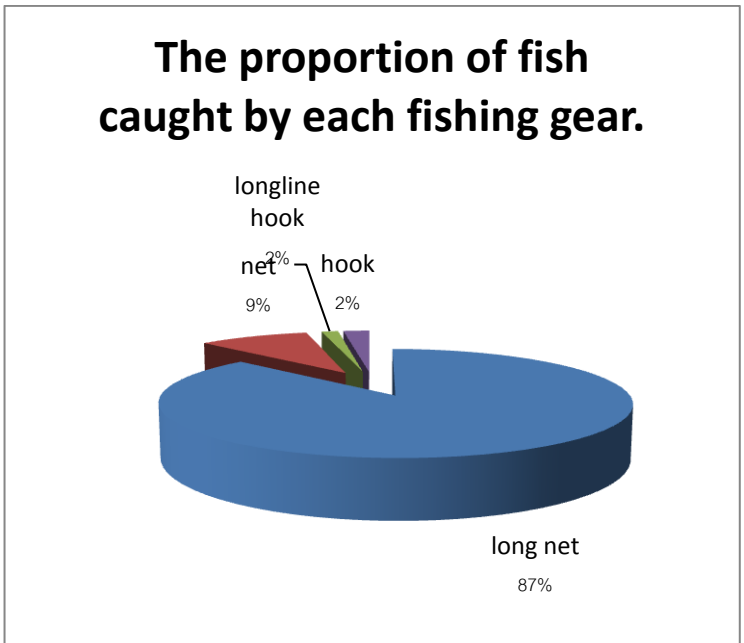
A questionnaire was used to collect data from 4 villages in Chiang Rai province, Thailand.

Ban Don Tee, 15 fishermen.
Ban Muang Kan, 10 fishermen.
Ban Pak Ing Bon, 36 fishermen.
Ban Pak Ing Tai, 28 fishermen.

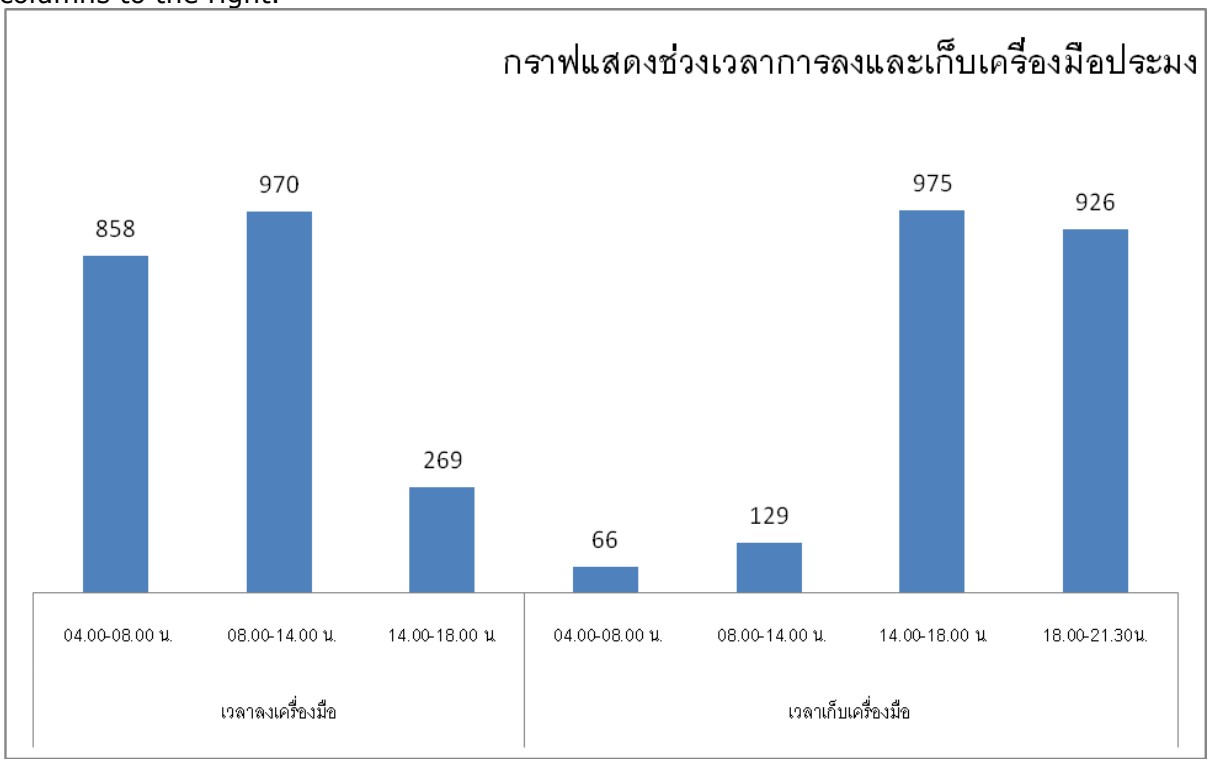
Each fisherman recorded fish catch in each fishing day over a 9 month period (from October 2011- June 2012). Training in how to do the fish catch monitoring was provided by the Chiang Rai provincial Department of Fisheries.

A total of 2,372 questionnaires were completed.

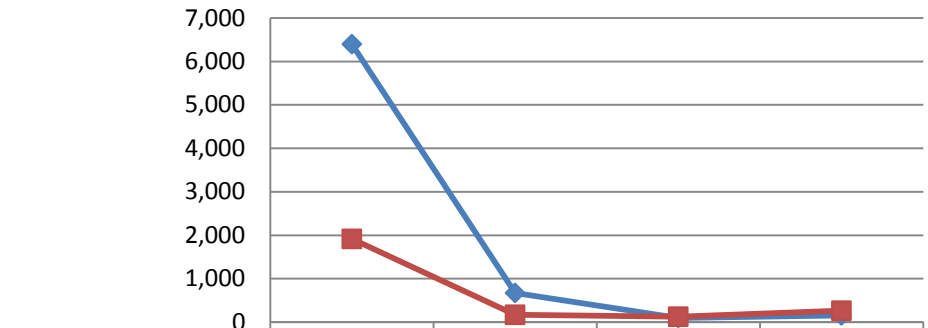
Key results



As is commonly the case in Mekong River fishery, gill nets catch by far the biggest percentage of fish. As can be seen in the diagram below, fishermen typically set out the nets in the morning (3 columns to the left) and collect from them in the afternoon (4 columns to the right.

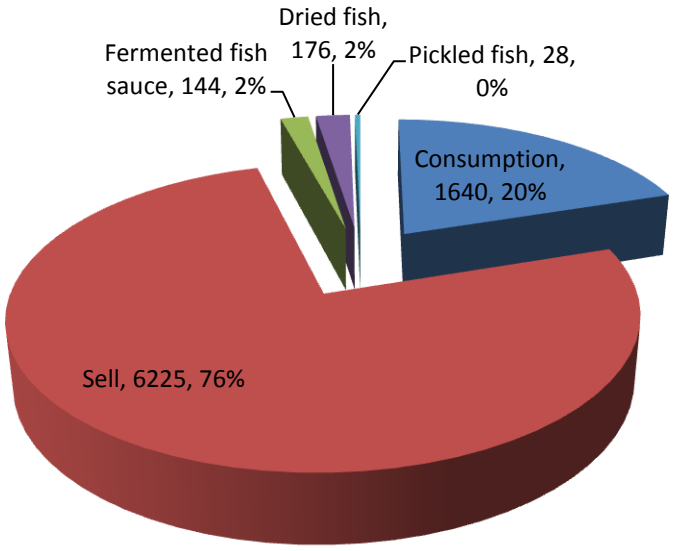


Comparison of the number of fish caught by each fishing gear.

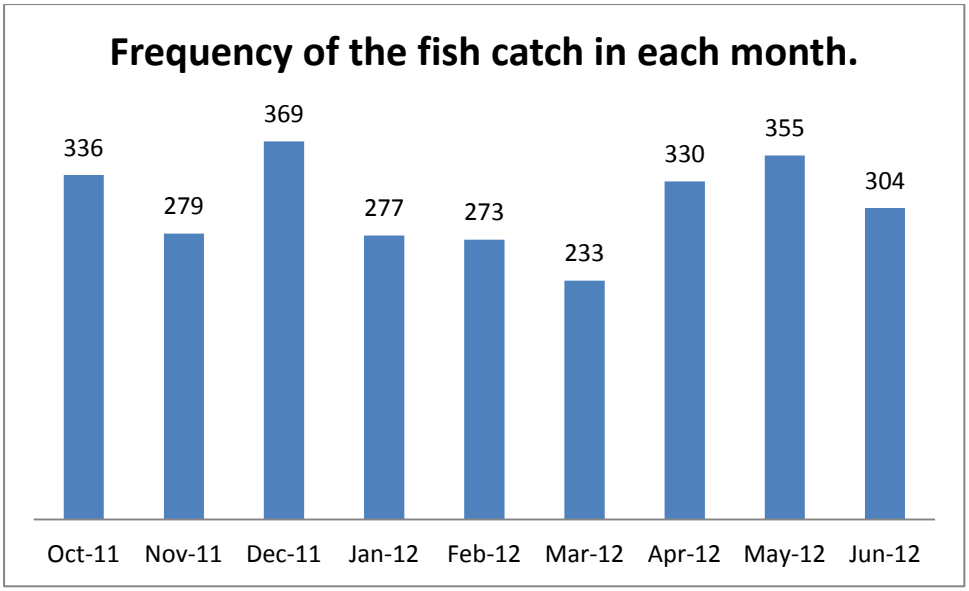


	long net	net	hook	longline hook
Total catch (kg./9 months)	6,398	674	100	157
Number of fishing gears.	1,917	171	127	265

What do they do with the fish?



So, just over ¾ of the catch is sold, providing an income of 800,000 Baht, a little less than $27,000, reflecting the more developed economy in Thailand compared to Laos.

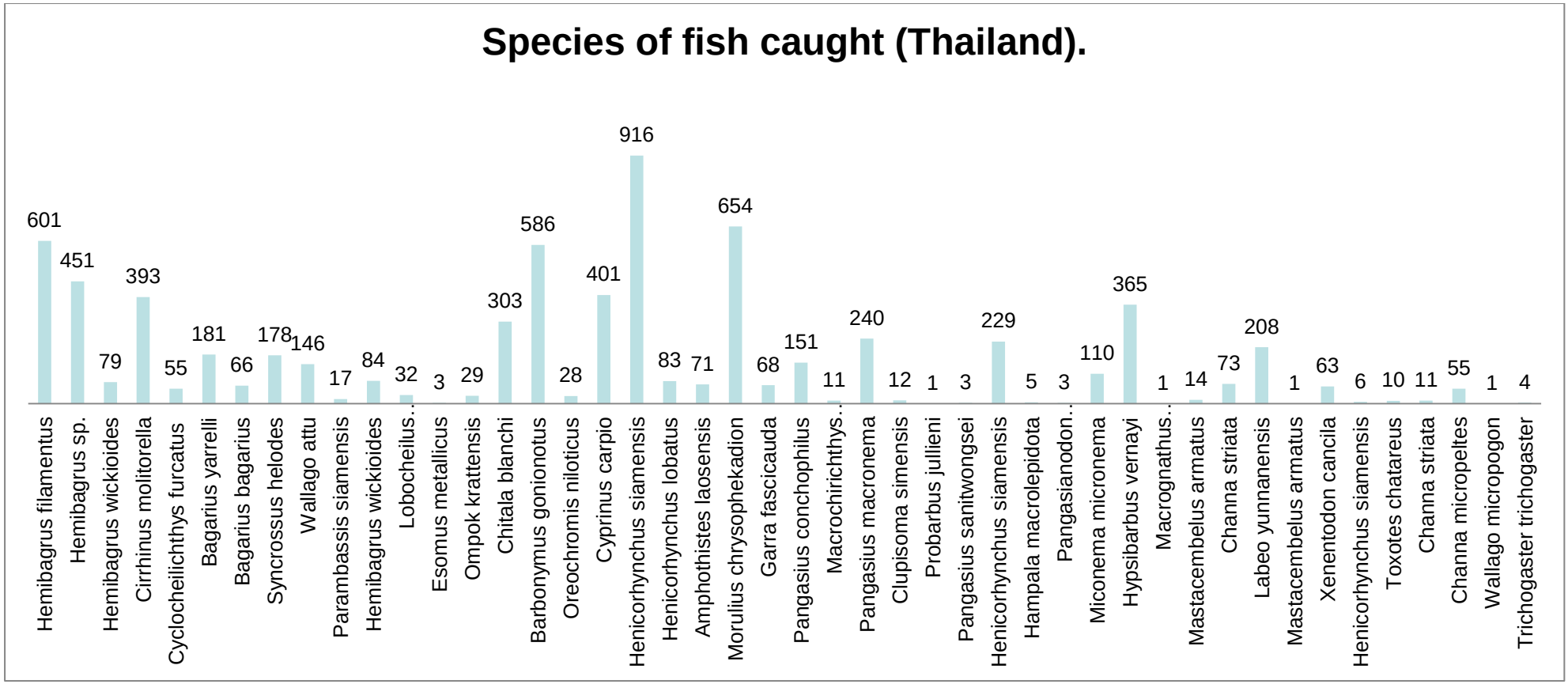


We can see that fish are caught in every month of this survey, with a lesser amount during the dry, low water season, January to March. Whether this is a real phenomenon or merely a reflection of lower fishing effort is not clear.

3. Species composition of the catch.
The 5 fish species that were most commonly caught were:

1. *Henicorhynchus siamensis*
2. *Morulius chrysophekadion*
3. *Hemibagrus filamentus*
4. *Puntius brevis*
5. *Hemibagrus sp.*

No Mekong Giant Catfish were reportedly caught, but three samples of *Pangasius sanitwongsei* were reported. That species is another giant catfish, probably as rare and threatened as the MGC. For the full list see the diagram on the next page.


Species of fish caught (Thailand).
601
451
79
393
55
181
66
178
146
17
84
32
3
29
303
586
28
401
916
83
71
654
68
151
11
240
12
1
3
229
5
3
110
365
1
14
73
208
1
63
6
10
11
55
1
4
Hemibagrus filamentus
Hemibagrus sp.
Hemibagrus wickioides
Cirrhinus molitorella
Cyclocheilichthys furcatus
Bagarius yarrelli
Bagarius bagarius
Syncrossus helodes
Wallago attu
Parambassis siamensis
Hemibagrus wickioides
Lobocheilus...
Esomus metallicus
Ompok krattensis
Chitala blanchi
Barbonymus gonionotus
Oreochromis niloticus
Cyprinus carpio
Henicorhynchus siamensis
Henicorhynchus lobatus
Amphothistes laosensis
Morulius chrysophekadion
Garra fascicauda
Pangasius conchophilus
Macrochirichthys...
Pangasius macronema
Clupisoma simensis
Probarbus jullieni
Pangasius sanitwongsei
Henicorhynchus siamensis
Hampala macrolepidota
Pangasianodon...
Miconema micronema
Hypsibarbus vernayi
Macrognathus...
Mastacembelus armatus
Channa striata
Labeo yunnanensis
Mastacembelus armatus
Xenentodon cancila
Henicorhynchus siamensis
Toxotes chatareus
Channa striata
Channa micropeltes
Wallago micropogon
Trichogaster trichogaster