



*“Working within CITES for the protection and conservation of species in international trade”*

## SELECTION OF THE LONG-TAILED MACAQUE (*MACACA FASCICULARIS*) FOR INCLUSION IN THE REVIEW OF SIGNIFICANT TRADE (RESOLUTION CONF. 12.8 (REV. COP13))

### SUMMARY

The long-tailed macaque (*Macaca fascicularis*) is the most widely-traded species of mammal listed on the CITES Appendices (1). It has experienced a rapid surge in international trade since 2004. Current levels of trade may represent a serious threat to the viability of wild populations of the species.

Exploitation for international trade is only one of several factors that may be having a significant negative impact on *M. fascicularis* populations. Other major threats include habitat degradation and loss due to human encroachment and hunting for human consumption and the domestic pet trade. *M. fascicularis* is a species that, due to shrinking habitats and a preference for forest edges, lives in close proximity to humans throughout much of its range. This often creates a misleading impression that populations are larger than they actually are. It also brings the species into conflict with humans that has, in some countries, led to their persecution and in some cases eradication as agricultural and urban ‘pests’.

**The Species Survival Network (SSN) outlines here the following issues of concern and recommended measures to be taken by the CITES Animals Committee. Our main recommendation is that the species be included in the Review of Significant Trade to enable Range States to improve the making of Non-Detriment Findings (NDFs) for exports and annual quotas:**

### Issues of Concern

- A large and rapidly expanding international trade in *M. fascicularis*, often of uncertain subspecies, as populations decline (Section 1.1; Section 2.3)
- A paucity of adequate population data and other information required to provide a sound scientific basis for NDFs (Section 1.2)
- Unrealistic trapping quotas (Section 1.3) and a failure by some countries to enforce them (Section 2.4)
- Failure, when making NDFs, to take into account additional threats to the species including habitat fragmentation, pet trade, use in traditional medicine/cuisine and conflict with humans leading in some cases to lethal problem animal control (Section 1.4; Appendix 1)
- Inconsistency and uncertainty regarding the use of source codes on CITES permits (Section 2.2; Appendix 2)
- An apparent lack of self-sustaining breeding colonies in captivity, with probably unsustainable numbers of animals being taken from the wild to establish and replenish breeding ‘stock’ (Section 2.1)

## Recommended CITES Measures

The SSN requests that the CITES Animals Committee take the following urgent measures to address these issues:

- A. Carry out an urgent Review of Significant Trade for *M. fascicularis* within the following Range States: Cambodia, Indonesia, Laos, Philippines and Vietnam, including analyses of the impact of international trade on wild populations of all sub-species of *M. fascicularis*
- B. Evaluate the conservation problems associated with large-scale commercial breeding of the species, including the issue of founder 'stocks' and need for replenishment from the wild
- C. Request the Secretariat to conduct missions to assess captive-breeding facilities for this species; in the first instance in Cambodia, Indonesia, Laos, Philippines and Vietnam
- D. Prepare a Resolution to reform the use and validation of source codes, in particular codes "C" and "F"
- E. Prepare a draft Resolution calling for enhanced enforcement efforts by Parties with respect to this species
- F. Conduct, in collaboration with the Secretariat, a technical workshop to identify the problems for *M. fascicularis* in China which, although not a Range State, is a major importer and exporter of the species. The aim of the Workshop should be to provide conservation management recommendations, improved CITES implementation, enforcement and trade controls, and capacity-building

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### 1. REVIEW OF SIGNIFICANT TRADE - CAMBODIA, INDONESIA, LAOS, PHILIPPINES AND VIETNAM

A Review of Significant Trade should be carried out as a matter of urgency to improve the validity and accuracy of NDFs for specific exports or annual quotas in Cambodia, Indonesia, Laos, Philippines and Vietnam. Current problems with the validity and accuracy of NDFs for *M. fascicularis* in these countries include:

- A rapid expansion of exports
- A complete absence of population surveys in some countries, and a lack of appropriate surveys asking appropriate species-specific questions in others
- Failure to consider the effects of widespread habitat fragmentation and loss and increasing human encroachment resulting in macaque-human conflict
- The setting of unrealistic quotas

#### 1.1. Significant increases in trade and declining populations

##### 1.1.1. Trade increases

According to the UNEP-WCMC CITES database, there has been a rapid expansion of international trade in live *M. fascicularis* since 2004 (2). The CITES Trade Data Dashboard for 2010 shows that *M. fascicularis* is currently the most heavily-traded mammal listed on the CITES Appendices. (3)

Data from importing countries indicate that between 1999 and 2003 the number of live *M. fascicularis* exported globally for commercial, breeding, medical and scientific purposes was **119,373**. Between 2004 and 2008, this figure more than doubled to **261,823** (only 9,810 of

the second most heavily-traded mammal, the rhesus macaque (*M. mulatta*), were traded during this period).

Major importing countries include China, the United States, European Union Member States and Japan. China plays a dual role. It is both a major importer and exporter of *M. fascicularis*, although the species is not native to China. Numerous large-scale *M. fascicularis* breeding facilities have been established within several countries, including China, during recent years to supply the research industry.

*M. fascicularis* was included in the Review of Significant Trade (Phase 2) in 1993. Indonesia reviewed the species, and the Animals Committee formulated recommendations for both Indonesia and the Philippines. Subsequently, the species was identified as a possible candidate for inclusion in the 2004 Review. At the time, TRAFFIC stated that '*there could be substantial unreported trade in the species*' and that '*further review of trade conducted outside of CITES trade controls may be warranted*'. (4)

An analysis of CITES data between 1999 and 2008 (5) has been carried out by the British Union for the Abolition of Vivisection (BUAV), an SSN Member Organisation, on the trade in live *M. fascicularis* exported for 'commercial', 'breeding', 'medical' and 'scientific' purposes from Cambodia, Indonesia, Laos, Philippines and Vietnam. (2) There have been substantial trade increases in three of these countries (Cambodia, Laos and Vietnam) during recent years (Figure 1).

The analysis focused on two time periods - 1999-2003 and 2004-2008 - to obtain an overview of trends in recent years, as well as examining the source codes used in Annual Reports since 2004.

**155,791** live *M. fascicularis* were exported from Cambodia, Indonesia, Laos, Philippines and Vietnam between 1999 and 2008. This represents approximately **41 per cent** of *M. fascicularis* exports worldwide. The total number of recorded exports of *M. fascicularis* from these Range States increased from **40,153** between 1999 and 2003 to **115,638** between 2004 and 2008, an increase of **188 per cent**.

Figure 1: CITES Export data for Cambodia, Laos and Vietnam between the years 1999 and 2008 for *M. fascicularis* exported for commercial, breeding, medical and scientific purposes from the UNEP-WCMC CITES Trade Database (Information based on permits issued by importing countries receiving *M. fascicularis*).

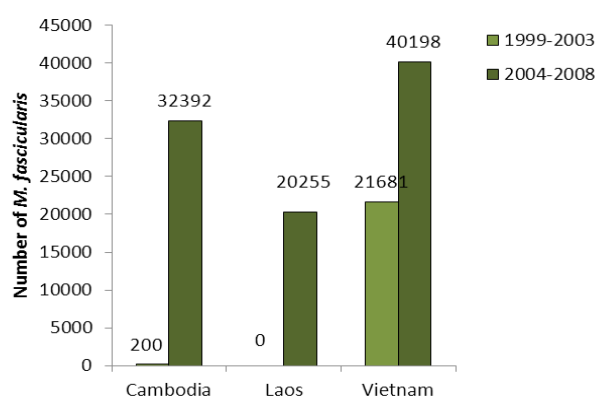


Figure 1 illustrates the substantial increase in trade from Cambodia, Laos and Vietnam during recent years, supporting the call for a Review of Significant Trade for these countries.

- **Cambodia's** trade in live *M. fascicularis* expanded dramatically after 2004. Between 1999 and 2003, the country exported **200** *M. fascicularis*. This figure increased to **32,392** between 2004 and 2008.
- **Laos** began exporting live *M. fascicularis* in 2004, and has since exported **20,255** *M. fascicularis* to Vietnam and China.
- **Vietnam** exported **21,681** live *M. fascicularis* between 1999 and 2003, and **40,198** between 2004 and 2008. Since 2004, Vietnam has imported **18,405** animals from Laos, Cambodia and Myanmar. **4,400** of which were re-exported - all to China.

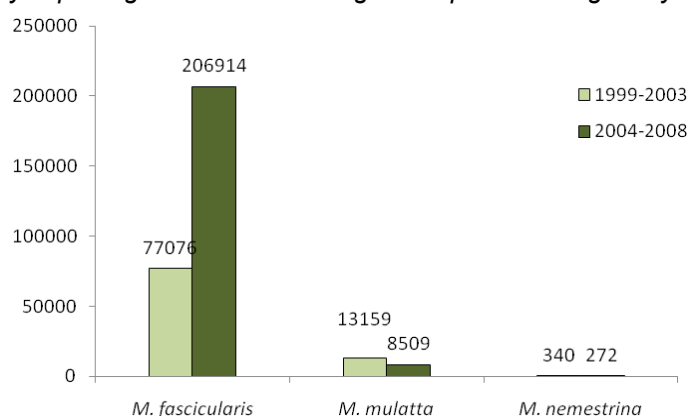
NB. China, whilst not a Range State and therefore not eligible for a Review of Significant Trade, exported **36,923** live *M. fascicularis* between 1999 and 2003, and **90,514** between 2004 and 2008 - an increase of **145 per cent**. In 2004 the country exported **11,908** *M. fascicularis*. This figure increased to **23,998** in 2008. Since 2004, China has also imported **51,970** live *M. fascicularis* from Cambodia, Indonesia, Laos and Vietnam.

The Chinese Scientific Authority has stated that '*the State Forestry Administration, national CITES management and scientific authorities closely monitor the trade of primates in the country*'. (6) However, although at the International Expert Workshop on CITES Non-Detriment Findings in 2008, the Chinese Scientific Authority presented a case study on *M. fascicularis* stating that China had exported only **12,244** animals between 2004 and 2007, the UNEP-WCMC CITES trade database records **66,519** *M. fascicularis* exported from China during the same period. (2)

### 1.1.2. A comparison of trade levels among macaque species (*M. fascicularis*, *M. mulatta* and *M. nemestrina*)

A comparison of the trade in *M. fascicularis* with two other species of macaque also exported for commercial, breeding, medical and scientific purposes, *M. mulatta* and the Southern pigtail macaque (*M. nemestrina*), illustrates the significant increase in exports of *M. fascicularis* during recent years (Figure 2). Trade in the other two species has decreased. *M. nemestrina* has been exported only from Indonesia, and *M. mulatta* only from China.

Figure 2: CITES Export data between the years 1999 and 2008 for three species of macaque exported for commercial, breeding, medical and scientific purposes. Information based on permits issued by importing countries receiving macaques from eight key exporting countries.



### 1.1.3. The IUCN Re-Assessment: Declining Populations

It has been estimated that the global population of *M. fascicularis* is 40 per cent lower than that estimated in the 1980s, and that, overall, populations are decreasing. (7) The IUCN Red

List categorises most subspecies as Data Deficient, and all as having decreasing populations. (Appendix 1)

Knowledge about the status of species and populations is essential for conservation measures including the making of NDFs. Several cases are known in which a late assessment of a species believed to be common, as is frequently assumed for *M. fascicularis*, has revealed a dire situation requiring urgent conservation effort. (8)

Despite declining populations and a rapid expansion of trade, *M. fascicularis* was classified on the IUCN Red List 10.4 as a species of '*Least Concern*'. Concern has been expressed regarding this classification. During the International Primatological Society XXIII Congress in 2010 it was announced that the IUCN Species Survival Commission (IUCN/SSC) Primate Specialist Group would undertake a re-assessment of the listing of *M. fascicularis*.

Dr. Ardith Eudey of the IUCN/SSC Primate Specialist Group (Asian section) stated at the Congress that '*it is inexplicable that M. fascicularis was downgraded on the 2008 IUCN Red List from "Lower Risk: Near Threatened" to "Least Concern". Such low priority has resulted in a continued lack of funding and commitment to document the species' actual distribution and monitor population trends*' (9). Dr. Eudey described *M. fascicularis* as a species that is widespread but rapidly declining. (10) (11)

The same author also states that data is deficient for the wild populations of *M. fascicularis* in the Indochinese region, particularly Cambodia, and states that data '*...on the present status of populations such as numbers, distribution and population trends are deficient for most species, especially those that are widespread geographically, such as M. fascicularis...*' The paper concludes that '*it is imperative that the conservation status of M. fascicularis be reassessed, particularly taking into account the impact of trade on the species, requiring as such a careful assessment by the CITES Secretariat*'. (10)

## 1.2. Population surveys

CITES Resolution Conf. 10.3 on Designation and role of the Scientific Authorities '*RECOMMENDS that... the findings and advice of the Scientific Authority of the country of export be based on the scientific review of available information on the population status, distribution, population trend, harvest and other biological and ecological factors, as appropriate, and trade information relating to the species concerned*'. (12) Yet for several Range States there are either no *M. fascicularis* population surveys available, or the existing surveys are inadequate. It is therefore impossible for adequate NDFs to be made in these countries.

### Case Studies

**Laos:** In October 2009, an official from the Laos Forestry Department stated during field research (carried out by the BUAV) that no population surveys for *M. fascicularis* had been carried out in the country. (13)

**Indonesia:** During further field research by the same Organisation, interviews with officials from the Indonesian Institute of Sciences (LIPI) - the designated CITES Scientific Authority - revealed that primate supply companies have funded population surveys, and representatives of these companies accompanied LIPI officials and representatives from the Forestry Department on the surveys themselves. (14) This involvement raises concerns about the objectivity, scientific validity and reliability of survey data.

According to one LIPI official, population surveys have been '*based on speculation, on the counting of M. fascicularis within protected areas, and the use of extrapolation*'. (14)

Extrapolation, particularly based on surveys in protected areas, is not an appropriate technique for assessing primate populations because the animals are patchily distributed, and numbers in sample areas may not be an accurate guide to population levels at other sites. This is particularly relevant for *M.fascicularis* as the species prefers forest edge habitats.

Following an examination of information on *M. fascicularis* (and *M. nemestrina*) by the CITES Scientific Authorities of EU Member States, and their subsequent concerns expressed regarding the conservation status of the species within Indonesia, the EU Scientific Review Group (SRG), at the 48<sup>th</sup> meeting in 2009, requested that Indonesia provide information clarifying the procedures used to carry out population surveys and the making of NDFs (which form the basis for annual trapping quotas). (15) The lack of response by Indonesia was discussed by the EU SRG on September, 14 2010, and it was agreed that the Commission would need to write again to press Indonesia for answers.

**Cambodia:** According to the authorities as reported in a 2008 report on Cambodia by TRAFFIC, population surveys of macaques inhabiting areas around the Tonle Sap Lake (situated within the floodplain of the Mekong River) were carried out in 2001, 2002, 2003 and 2005. However, some of the population surveys were supported financially by macaque breeders. TRAFFIC concludes that '*to ensure transparency, such support in future should be discouraged*'. (17)

### **1.3. Setting unrealistic trapping quotas**

#### ***Case study: The export ban in Indonesia***

The trade in primates from Indonesia to the international market commenced in 1959. The current export trade of primates for commercial, breeding, medical and scientific purposes predominantly concerns two species, *M. fascicularis* and *M. nemestrina*. The trade reached a peak in 1989, when more than 16,000 *M. fascicularis* were exported. (18)

In 1992, Indonesian law only allowed wild-caught primates to be exported by companies that had also set up captive-breeding programmes. However, a field study by the BUAV at that time found very little evidence of captive-breeding programmes. (19) Subsequently, according to I Made Subadia, Director of General of Forest Protection and Nature Conservation, Ministry of Forestry, in 1993, the CITES Secretariat, based on the recommendations of the Animals Committee '*questioned Indonesia about the non-detriment (scientific basis) finding for undertaking trade in the monkeys*'. (20) In 1994 the Indonesian government announced a ban on the export of wild-caught *M. fascicularis* and *M. nemestrina*. However, at that time there were no restrictions on the number of primates who could be trapped in the wild to replenish breeding 'stock'.

In 2002, Mr. I Made Subadia proposed that the government develop a strategy that includes the export of both wild-caught and captive-bred primates, but this has not yet been done. (20)

Indonesia has reportedly had captive-breeding programmes in operation since 1994. However, 17 years later, the industry continues to rely on the large numbers of wild-caught *M. fascicularis* allowed to be trapped annually, both for research within Indonesia and for alleged 'breeding stock' for companies that export primates for research.

In April 2009, the CITES Management Authority of Indonesia announced a three-fold increase in wild *M. fascicularis* (15,100, increased from 5,100 in 2008 and 4,100 in 2007) allowed to be trapped during that year for both domestic research purposes and 'breeding stock'.

It is unclear whether the authorities are able to ensure that those *M. fascicularis* exported for research, all of whom are supposed to be captive-bred or captive-born individuals, are genuinely captive-born or captive-bred and not wild-caught, particularly when thousands of animals are allowed to be taken from the wild each year by the very companies exporting them for research. During an interview with representatives from the BUAV at the National Office of the Forestry Department, no details could be provided on the checks adopted by the authorities to ensure wild-caught animals are not exported as captive-born or captive-bred. It was instead implied that the national CITES office relied on, and trusted, written reports from the primate companies themselves. (14)

#### **1.4. Habitat loss and other threats**

##### **1.4.1. Habitat loss**

In order for an NDF to be an accurate reflection of the effect of trade on a population, it must take into account the ability of that population to withstand other threats affecting the species. Although *M. fascicularis* is a widespread species, and one that adapts well to changing habitat, populations are declining from a number of causes in addition to trade pressures.

Threats to the species include habitat loss and degradation (Appendix 1). In Indochina in particular local populations of macaques are in peril due to rapid economic and associated infrastructure development. (21)

Though the species is adaptable, habitat loss has led to *M. fascicularis* populations into conflict with humans in both rural and urban landscapes (10). This has intensified as *M. fascicularis* populations find it increasingly necessary to exploit human food sources. In Malaysia the species has colonised land cleared for plantations, and increasing human-macaque conflict has led to extermination programmes. (22)

The subspecies principally involved in trade are *M. f. fascicularis* (Indochina and southern Thailand to Indonesia, Timor-Leste and the Philippines), *M. f. aurea* (Bangladesh, Myanmar and Thailand) and *M. f. philippinensis* (Philippines). Some other subspecies of *M. fascicularis* are isolated and endemic to islands, making them more vulnerable to external pressure. There is little information available on the population status of several island forms, including two sub-species listed as 'Vulnerable' by IUCN (See Appendix I). (23)

#### **Illegal trade**

A recent report points to a sophisticated trans-border wildlife trafficking network involving wild-caught *M. fascicularis* smuggled from Cambodia to Vietnam with forged CITES permits. (24) Other evidence points to an illegal (and therefore unrecorded) trade in wild-caught *M. fascicularis* that is likely to have a big impact on populations. Field officers from the BUAV have been informed that wild *M. fascicularis* are regularly smuggled out of Cambodia. (25)

According to a 2008 investigative report, *M. fascicularis* have been imported to farms in Vietnam from Cambodia and Laos. (26) The report stated that one farm acted simply as a holding facility for imported primates from these two countries that were then re-exported to China. *M. fascicularis* were apparently taken by boat along the River Dong, moved into larger boats and then transported via the Saigon River to China. (26)

In 2007 a Vietnamese newspaper, *Thanh Nien News*, carried out its own investigation, lasting several months, into the primate trade. Reporters discovered that companies were using forged documents to claim that *M. fascicularis* specimens originated from Laos, when in actual fact they had been smuggled into the country from Cambodia. (24) A more recent media story highlighted that Forest Rangers in the central province of Phu Yen sold 96 *M.*

*fascicularis* seized from smugglers to a breeding farm in Dong Hoa District instead of releasing them into the wild. (27)

In 2009, when field officers from the BUAV met with trappers in Indonesia they confirmed that during the past five years, the numbers of *M. fascicularis* had decreased rapidly partly due to illegal hunting. (14)

### **1.4.3. Domestic trade**

In addition to habitat loss and illegal trade, in some countries *M. fascicularis* is threatened by domestic trade. Whilst domestic trade comes outside the purview of CITES, it is increasingly recognized as an urgent threat to the conservation of wild populations and its impact should be considered in the making of non-detriment findings. In Indonesia, observations by TRAFFIC Southeast Asia have indicated that the trade in wildlife for the domestic pet markets in Medan alone is extensive and possibly of conservation concern. (28) In Sumatra, macaques are specifically targeted by hunters, and *M. fascicularis* is the most commonly found primate in pet markets in Indonesia. (29)

## **2. IMPLEMENTATION AND ENFORCEMENT - RANGE STATES AND CHINA**

The large expansion of breeding facilities, their failure to demonstrate their capability to reliably produce second generation offspring, and the inaccurate use of source codes on CITES permits demonstrates a need for improved implementation and enforcement within key *M. fascicularis* exporting countries.

### **2.1. A reliance on wild populations**

Many of the facilities exporting *M. fascicularis* in Cambodia, Indonesia, Laos and Vietnam do not have a reliable ability to produce second-generation offspring, and were established and continue to be replenished using animals from wild populations.

CITES Resolution Conf. 10.16 (Rev.) on Specimens of Animal Species Bred in Captivity states: (30)

a) *The definition provided below shall apply to the specimens bred in captivity of species included in Appendix I, II or III, whether or not they were bred for commercial purposes;*

b) *The term 'bred in captivity' shall be interpreted to refer only to 'specimens, as defined in Article I, paragraph (b), of the Convention, born or otherwise produced in a controlled environment, and shall apply only if the breeding stock, to the satisfaction of the competent government authorities of the exporting country:*

*A. was established in accordance with the provisions of CITES and relevant national laws and in a manner not detrimental to the survival of the species in the wild;*

*B. is maintained without the introduction of specimens from the wild, except for the occasional addition of animals, eggs or gametes, in accordance with the provisions of CITES and relevant national laws and in a manner not detrimental to the survival of the species in the wild as advised by the Scientific Authority.*



*C. has produced offspring of second generation (F2) or subsequent generation (F3, F4, etc.) in a controlled environment; or is managed in a manner that has been demonstrated to be capable of reliably producing second-generation offspring in a controlled environment.'*

Around the Tonle Sap Lake in **Cambodia**, *M. fascicularis* are being trapped and traded in large numbers in response to demand from farms in both Cambodia and Vietnam. (31) Field research by TRAFFIC in 2008 revealed that farms rely on the purchase of wild animals, and have not demonstrated their capability to reliably produce second generation offspring. (17) Furthermore, TRAFFIC stated that since at least 2005 there appears to have been an ongoing dependence on wild populations to increase breeding stock, and has expressed concern regarding the true status of so-called 'self-sustaining' captive-breeding colonies. (17)

A 2007 report by the Wildlife Conservation Society on primates in the Seima Biodiversity Conservation Area in Mondulkiri Province states that current levels of trapping for international trade will pose a significant threat to wild populations of *M. fascicularis* in Cambodia and throughout its range if they continue unabated, and that the impact of intense collection of *M. fascicularis* in Cambodia is not yet known but may be 'dramatic'. (32)

In **Laos**, the owner of the main primate supply facility, Vannaseng Farm, stated during field research by the BUAV that his breeding animals originated from Malaysia and Cambodia. (13) Yet, according to the CITES database there are no records of imports to Laos from these countries. According to a report in the *Malay Mail*, the Malaysia Wildlife and National Parks Department confirmed that no *M. fascicularis* had been exported to Laos. (33) The owner also reported that a second farm, due to be opened in 2010, would be established using wild-caught primates from Cambodia. (13)

The report of a survey carried out by the Wildlife Conservation Society in 2000, before the large-scale trapping of wild populations to establish breeding farms in 2003 and 2004, concluded that *M. fascicularis* was 'potentially at risk' in Laos (34)

### **2.2.1. Inaccurate use of CITES source codes**

Field research has given rise to some serious concerns regarding the misuse of source codes by key *M. fascicularis* exporting countries. Research has revealed that countries may be declaring the source of *M. fascicularis* on CITES export and re-export permits as 'captive-bred' or 'captive-born', when they are in fact wild-caught.

The source codes used by some of the key exporting countries are as follows: (35)

- A** *Plants that are artificially propagated in accordance with Resolution Conf. 11.11, paragraph a), as well as parts and derivatives thereof, exported under the provisions of Article VII, paragraph 5, of the Convention (specimens of species included in Appendix I that have been propagated artificially for non-commercial purposes and specimens of species included in Appendices II and III)*
  
- C** *Animals bred in captivity in accordance with Resolution Conf. 10.16 (Rev.), as well as parts and derivatives thereof, exported under the provisions of Article VII, paragraph 5, of the Convention (specimens of species included in Appendix I that have been bred in captivity for non-commercial purposes and specimens of species included in Appendices II and III)*

**F** *Animals born in captivity (F1 or subsequent generations) that do not fulfil the definition of 'bred in captivity' in Resolution Conf. 10.16 (Rev.), as well as parts and derivatives thereof*

**R** *Specimens originating in a ranching operation*

**W** *Specimens taken from the wild*

According to the CITES trade database, exports of *M. fascicularis* from **Cambodia** and **Laos** began in 2004. The source codes used for these exports indicate that the animals were captive-bred. (2) *M. fascicularis* are reproductively active from around four years of age and, therefore, in order for a captive-bred (F2+ generation) animal to be available for export at the age of two (the typical age a macaque is exported for research purposes) in 2004, the breeding facilities would need to have been established around 1994. There do not appear to be any farms in Cambodia that were established prior to 1994. (30)

Similarly, in order for a captive-bred (F2+ generation) two-year old animal to be available for export in 2007 (as recorded by Laos) the breeding facilities should have been established around 1997. Again, there do not appear to be any farms in Laos that were established during this time. The main 'farm' or breeding facility in Laos was not established until 2004. (13)

The farm owners in Laos have stated to an SSN Member Organisation that 1,000 *M. fascicularis* were born in 2007 and that, in subsequent years, between 2000-3000 have been born each year. Yet the same facility stated that in 2008, it had exported 9,000 primates - more than the total number claimed to have been bred in captivity. (13)

During 2007 and 2008, Laos used source code 'R' for some exports of *M. fascicularis*. Similarly, in 2006 Myanmar used this code for the export of 8,000 *M. fascicularis* (Appendix 2). However, in 2010, the European Commission recommended that EU Member States refrain from issuing import permits for primates from Laos if the application contains source code 'R', as ranching is not appropriate for primates. (36) Ranching is defined in Resolution Conf. 11.16 (Rev. CoP. 15) on Ranching and Trade in Ranched Specimens of Species Transferred from Appendix I to Appendix II as '*the rearing in a controlled environment of animals taken as eggs or juveniles from the wild, where they would otherwise have had a very low probability of surviving to adulthood*'. (37) Following discussions at the 53<sup>rd</sup> SRG meeting in 2010, the Commission is seeking information from Laos and will be considering any response at the 54<sup>th</sup> SRG meeting.

There are also concerns regarding the source of the many thousands of *M. fascicularis* exported from islands in **Indonesia** (e.g. Tinjil and Deli). The CITES Management Authority in Indonesia categorises these islands as another type of breeding operation, and issues 'F' and 'C' source codes on permits for *M. fascicularis* from these islands. However, true captive-breeding requires a closed environment where variables can be strictly controlled. CITES Res. 10.16 (Rev.) states that a '*controlled environment*' is '*an environment that is manipulated for the purpose of producing animals of a particular species, that has boundaries designed to prevent animals, eggs or gametes of the species from entering or leaving the controlled environment, and the general characteristics of which may include but are not limited to: artificial housing; waste removal; health care; protection from predators; and artificially supplied food*'. (30)

On these islands, controls are absent. The habitat on these islands is the same as that for wild populations of *M. fascicularis*, and is only different from habitat on the 'mainland' by virtue of being separated from it by a body of water. The primates are subjected to the same conditions as other wildlife on the islands, and they directly contribute to and are part of the

wild ecosystem there. These animals clearly fail to meet the CITES criteria for either 'captive-bred' or 'captive-born'. They are wild, and those exported should be classified as wild-caught.

### **2.2.2. Marking and record-keeping at breeding facilities**

The Preamble to CITES Resolution Conf. 8.13 (Rev.) states: '*there is no reason to limit the use of coded-microchip implants to only live animals of species included in Appendix I or high-value species*'. (33)

*M. fascicularis* at breeding facilities throughout Southeast Asia are not given a permanent means of identification such as a tattoo or microchip. Instead, facilities use neck tags which can be easily removed. In Laos, the owner of a farm has admitted that the removable tags were used at the request of the companies in Vietnam and China importing the primates. (13) An absence of permanent methods of marking and identification for *M. fascicularis* makes it extremely difficult to verify the source of each primate at captive-breeding facilities.

### **2.3. A rapid expansion of facilities**

The breeding and supply of *M. fascicularis* for research purposes is a relatively new activity that has gained significant momentum during recent years and has developed into a large-scale business enterprise, particularly within Southeast Asia.

In **Cambodia**, there is large-scale capture of wild *M. fascicularis* throughout the country. (39) Field research in 2008 revealed eight large-scale breeding operations for *M. fascicularis*, with a number of primate facilities under construction. (25) Researchers from TRAFFIC have been informed that wild primates are obtained from areas around the Tonle Sap for the purposes of stocking these facilities. These wild-caught primates are then funneled through various holding facilities and farms that range in size from several hundred animals to upwards of 10,000. (17)

In **Laos**, a number of farms have been established, and the trade has expanded rapidly in recent years following the first exports of *M. fascicularis* in 2004. Field research conducted in 2009 revealed that a new farm was under construction and due to open in 2010. (13)

In **Vietnam**, two large facilities in the south hold several thousand animals. (17) (40) Field research conducted by an SSN NGO in 2006 revealed that the company which owns these two facilities also had links to 'satellite farms' close to the Cambodian border near Ho Chi Minh City. New facilities were also under construction, with permission apparently having already been granted by the authorities to use wild-caught animals as breeding 'stock' to establish these farms. (40)

In addition to being a major exporter, Vietnam is also a significant importer of *M. fascicularis* from surrounding countries. Since 2004, Vietnam has imported 18,405 live *M. fascicularis* from Laos, Cambodia and Myanmar. It has been stated in a report on Vietnam's wildlife trade policy funded by the CITES Secretariat that '*if domestic demand cannot be met by the supply from captive breeding and artificial propagation, activities may stimulate the demand for illegally harvested and traded products involving the species*'. (41)

### **2.4. Unsustainable trapping and the misuse of trapping permits**

#### **Case Studies**

**Indonesia:** Field research by the BUAV has raised concerns regarding the misuse of trapping permits (14). One primate supply company in Indonesia obtained a permit from the

Head of Conservation Office for Natural Resources in Java to capture 200 *M. fascicularis* (50 males and 150 females) in 2007. According to local villagers in Semarang, Central Java, the company captured over 500 *M. fascicularis*, violating the terms of the permit. (14)

The allocation of substantial quotas for capturing *M. fascicularis* from the wild to supplement breeding stock indicates that primate-breeding and supply companies in Indonesia are not self-sustaining. Furthermore, the numbers of *M. fascicularis* actually removed from the wild appear to be far more than those allocated by the trapping quotas. This is because the quotas apparently do not include trapped animals considered 'unsuitable' e.g. large males or elderly animals. (14)

**Cambodia:** In 2008, field officers from the BUAV joined a group of trappers in the forest reserves of Cambodia, the preferred habitat of *M. fascicularis*. (25) Not only did trappers not hold any permits, but the expedition took them into the Boeng Tonle Chhma, which is a protected area within the Tonle Sap UNESCO Biosphere Reserve of Cambodia. The Boeng Tonle Chhma is one of three Ramsar Convention sites in Cambodia. The trappers also claimed that primate breeding facilities use the same license several times to catch *M. fascicularis*. (25)

Conversations with trappers reveal a disturbing trend towards a reduction of available *M. fascicularis* in the region. The field officers were informed by trappers who had been trapping primates in the region for many years that the number of *M. fascicularis* caught had fallen dramatically during the last few years. Between 2002 and 2003, a week-long trapping expedition would catch between 80-200 *M. fascicularis*. In 2008, this number had dropped to an average of five to eight individuals. (25)

The method used to trap wild macaques is incredibly destructive. A field study in 2008 showed that hunters isolate a macaque troop in a large tree by cutting down all the surrounding forest in a 25-30m radius. Evidence suggests that chainsaws and axes are used for this work. (42) Once the area has been cleared, nets are set up around the periphery of the cleared circle. The macaques are forced to drop to the ground and captured in the nets as they attempt to escape. (42)

A total of five capture sites were found along one short stretch of river approximately 700m long, and there are bound to be many more, with an estimated 50 to 100 trees cut down at each site. (42)

## **CONCLUSION AND RECOMMENDATIONS**

This briefing highlights a recent and rapid trade increase, especially since 2004, in *M. fascicularis*. This is a global trade that is largely unmonitored, and one without the necessary safeguards to ensure that it is sustainable. Furthermore, there is evidence that, despite its wide range across Southeast Asia, *M. fascicularis* is being detrimentally affected by other threats such as hunting, habitat loss and degradation, and human encroachment upon habitat, resulting in conflicts which may lead to the extirpation of local populations.

Our evidence indicates that range States are not implementing Article IV of the Convention adequately with respect to this species. Trade in *M. fascicularis* should be closely scrutinised by both CITES and national governments.

## APPENDICES

### Appendix 1: Habitat fragmentation and loss that should be taken into account in the making of NDFs

#### 1. Habitat loss

##### **Case Studies**

**India:** The natural range of *M. fascicularis* extends southward and eastward from India into southernmost Bangladesh. In India, on the Nicobar Islands, the Nicobar Island long-tailed macaque (*M. f. umbrosa*) is listed by IUCN as 'Vulnerable' and is on Schedule-I of the Wildlife Protection Act.

*M. f. umbrosa* has a small and isolated population which has become seriously fragmented and has therefore been recommended as a candidate for protection. (43) This call for protection reflects likely increases in disturbances to the subspecies' habitat due to human activities. Part of its habitat is thought to have been severely affected by the tsunami in 2004; hunting and the construction of roads on Katchall Island and Great Nicobar Island also pose major threats. (44)

**Bangladesh:** In Bangladesh, the Teknaf Peninsula population of the Burmese long-tailed macaque (*M. f. aureus*), a subspecies that also occurs in Laos, Myanmar and west-central Thailand, is believed to have been almost completely decimated by shrimp cultivation and ship-building. (45) The major threats to the Burmese long-tailed macaque are agriculture, mangrove removal, human settlement and deforestation. The Teknaf population is restricted and found in only two locations in the Teknaf mangroves, which are themselves under threat. (45)

This subspecies has been listed by the IUCN as 'Data deficient', as there is little information on population status and threats. However, in 2003, it was found to be 'Critically Endangered' by the Conservation Assessment and Management Plan (C.A.M.P.). (46) C.A.M.P. was developed by the IUCN SSC Conservation Breeding Specialist Group and carried out using IUCN Red List criteria and categories to assess the status of the subspecies.

**Laos:** The combination of loss of forest cover (estimated at nearly 55 per cent) and over-exploitation of wildlife populations poses significant threats to all forest-dependent species in Laos (47). Habitat loss through land development for agriculture (especially for commodity crops), mining and hydro power are looming threats. (48)

*M. fascicularis* has been found in primary forests, disturbed and secondary forests, and riverine and coastal forests of nipa palm and mangrove. (49) It has been reported that the ecologically important 'old growth' forests are being impacted by years of unregulated logging operations controlled by the Lao military. (50)

The largest undisturbed montane evergreen forest in Laos is largely encompassed within the Nakai-Nam Theun National Biodiversity Conservation Area (NBCA). Plans to develop a \$2 billion hydropower project along the major river draining the area (the Nam Theun) have generated considerable controversy and promoted intensive research into the likely effects of such a development.

The situation is particularly desperate along the recently completed north-south economic corridor - a 150 mile road that runs from Thailand to China, passing through the heart of

Laos. The corridor has spurred widespread deforestation and wildlife poaching. Vast tracts of forest along the corridor have been logged for timber and converted for teak or rubber plantations, while hillsides have been burned for glutinous rice cultivation.

**Vietnam:** Within Hang Nature Reserve in Vietnam, some 10,000 construction workers are due to commence work on a hydro power and flood prevention dam project. This will lead to increased demand for wildlife products, firewood, and increased human activities due to improved accessibility by roads and the future lake.

**Myanmar:** In Myanmar, *M. f. aureus* is distributed along coastal regions from the northwestern border near Bangladesh to the southernmost border near Thailand. The Ayeyarwady Delta, BagoYoma, and the northern Tanintharyi regions appear to have suffered extensive population losses. (51) In May 2008, the Ayeyarwady was devastated by cyclone Nargis, which destroyed most mangroves and coastal forests. The extent of natural forests and plantations damaged by storms in the Ayeyarwady and Yangon Divisions was reported to be 14,000 ha and 21,000 ha, respectively (52). Tree canopies were damaged during the cyclone, and forests in some areas have yet to recover.

Habitat loss from cyclonic storms, logging, agricultural and aquacultural farming, and hunting for food and trading are current threats to *M. fascicularis* populations in Myanmar. As a result, the populations may be fragmenting and declining. (51)

**Thailand:** *M. f. aureus* inhabits west central Thailand and the Dark-crowned long-tailed macaque (*M. f. atriceps*) inhabits Khram Yai Island, off the southeast coast. (23) A study carried out in 2007 found that although both *M. f. fascicularis* and *M. f. aureus* adapt well to disturbed habitats, local populations face a number of threats. These include habitat loss, isolation, genetic pollution (hybridisation and translocation), and conflict with humans; also the release of pet macaques which contributes to the spread of disease amongst macaques. (53) (54)

**Indonesia:** Indonesia's forests are being degraded and destroyed by logging, mining operations, large-scale agricultural plantations, colonisation, and subsistence activities like shifting agriculture and cutting for fuel wood. (55) Widespread logging has occurred throughout the country. (56) Java has a burgeoning human population and a long history of farming which has significantly reduced the forest cover. This leads to human-macaque conflict resulting in the removal of local populations of macaques, wildlife killing and poaching.

The Muara Angke Wildlife Reserve is the last remaining mangrove forest in Jakarta and home to a small local population of *M. fascicularis*, yet it is dwindling in size due to development and there have been calls to eradicate the *M. fascicularis* population because of conflict with people in nearby residential areas. (57)

A recent report by United Nations Environment Programme (UNEP) stated that up to 98 per cent of forest in Sumatra and Borneo, which is a significant habitat for *M. fascicularis*, may be destroyed by 2022 through conversion to palm plantations, poaching of timber and clearing for farming. (58) (59)

In West Kalimantan, primates have faced serious problems since forests covering 24,920 hectares (61 578.6611 acres) were taken over by a logging company. Logging companies work in protected forest that borders the Betung Kerihun National Park. (60) On Pulau Maratua, East Kalimantan, the Maratua long-tailed macaque (*M. f. tua*) is listed by the IUCN as 'Data deficient' with a decreasing population. (23)

The Sumatran lowland rainforest is one of the most diverse forests on Earth, and also one of the most threatened. Primary tropical rainforest (especially in the lowlands) has disappeared

rapidly, (61) with most of the land being converted to commercial timber concessions, cultivated lands and human settlements.

Numerous primate species live in freshwater swamp forests in Sumatra, including *M. fascicularis*. However these swamp forests have fertile soil suitable for agriculture, and so this ecoregion has been intensively converted and exploited. Very little of the remaining habitat is in an undisturbed state, including the areas inside nature reserves. (62)

An intermittent population survey carried out on Lombok between 2001 and 2009 highlighted the threat of continuous habitat loss through logging and shifting cultivation, potentially affecting the *M. fascicularis* population. This population is also under potential threat from the recent development of ecotourism practices that may accelerate the species' dependence on humans for food. (63)

**Vietnam:** The results of a recent study reveal that five Vietnamese macaque species (*M. fascicularis*, *M. mulatta*, *M. arctoides*, *M. leonina*, and *M. assamensis*) are severely depressed by habitat destruction, hunting and illegal trade, although only three have been listed in the Vietnam Red Data Book (*M. arctoides*, *M. leonina*, and *M. assamensis*). (64) (65)

Vietnam used to be almost entirely forested, providing for a diversity and abundance of primates. (66) From 1943 to 1995, however, the forest cover declined from 44 per cent to 28.2 per cent of the total land area as the result of human activities including war, logging and land conversion.

Although forest coverage recovered gradually during the 1990s, reaching 36.7 per cent in 2005, forest quality has drastically declined. The two largest wetland ecosystems in Vietnam, the Red River delta and the Mekong River delta, are being largely converted to agricultural lands, industrial zones and aquaculture areas. During the past two decades, over 200,000 ha of mangrove forests have been destroyed to create shrimp and fish ponds. (67)

Information on the distribution and status of macaques in Vietnam is scarce. However, field studies reveal that forest fragmentation has resulted in increasing isolation of macaque populations. Persistent hunting has made the animals very timid, and macaques can normally be observed only in protected areas. (64) Abundance and diversity surveys and effective conservation measures for primates in Central Vietnam are urgently needed. (68)

The Con Dao long-tailed macaque (*Macaca fascicularis condorensis*), a subspecies inhabiting the islands off the southern coast (Con Son Island and Hon Ba Island), is listed by the IUCN as 'Vulnerable'. The population is estimated at less than 1,000 individuals. At present, there is very little information about *M. f. condorensis*, and the subspecies is not mentioned in the Vietnam Red Data Book. (64) (65)

**Cambodia:** The exploitation of primates for use in traditional medicine, loss of habitat from logging, and, especially, trade are the major reasons for declining populations of primates in Cambodia. (69)

According to 2005 report conducted by the Food and Agriculture Organization of the United Nations (FAO), Cambodia has the third highest rate of deforestation in the world, exceeded only by Nigeria and Vietnam. (70) Cambodia's primary rainforest cover fell from over 70 per cent in 1970 to 3.1 per cent in 2007. (71)

*M. fascicularis* occurs in the Tonle Sap-Mekong peat swamp forests, which now occupy only a small vestige of their former range. (25) (73) More than 90 percent of this ecoregion has been converted to scrub or degraded forest. Intensive agriculture and the alteration of the

hydrodynamics of the river systems in the region have altered the natural river fluctuations, adversely affecting the remaining native vegetation. Very little of the original forest cover remains in pristine condition today. (73)

**Philippines:** On the main islands of the Philippines, *M. fascicularis* is taken for local consumption and hunted for sport. It is also persecuted as a 'pest'.

**Malaysia:** Data from the United Nations indicates that the deforestation rate in Malaysia is accelerating. Large areas of forest are slated for conversion to farmland, palm oil plantations or timber concessions.

Many protected areas are small. (74) Shrinking forest habitat, together with economic growth and a rapidly expanding human population, has brought *M. fascicularis* into closer contact with humans in urban areas, which in turn has led to conflict and persecution. With the spread of agricultural land and development in areas inhabited by *M. fascicularis*, there is an increase in competition between macaques and humans (42) as the animals often live alongside towns and villages, exploiting the fields of farmers.

**Appendix 2: UNEP-WCMC CITES Trade Database – Number of live *M. fascicularis* exported and source codes used by eight key exporting countries for commercial, breeding, medical and scientific purposes between 2004 and 2008. NB. Information based on permits issued by importing countries.**

Exporter	Total Exported	Source Code				
		C	F	W	R	A
Laos	20255	9550		7985	2720	
Vietnam	40198	29928	3970	5400		900
Indonesia	14480	3811	10669			
Cambodia	32392	24332	8060			
Philippines	8313	8313				
Myanmar	8000				8000	

### Appendix 3: The IUCN Red List classification

Range States for *M. fascicularis* are as follows: Bangladesh, Brunei Darussalam, Cambodia, India (Nicobar Islands), Indonesia (including Bali, Bangka, the Batu Islands, Bawean, Belitung, Java, Kalimantan, the Kangean Islands, Karimata, Karimunjawa, Lingga, Lombok, the Natuna Islands, Nias, Nusatenggara, the Riau Archipelago, Simeulue, Sumatra, Sumba, Sumbawa, and Timor), Lao PDR, Malaysia (including West Malaysia, Sabah and Sarawak), Myanmar (including the Mergui Archipelago), Philippines (Balabac, Basilan, Cagayan Sulu, Culion, Jolo, Leyte, Luzon, Mindanao, Mindoro, Palawan, and Samar), Singapore, Thailand (including offshore islands), Timor-Leste and Vietnam. (23)



The subspecies principally involved in trade are *M. f. fascicularis*, *M. f. aureus* and *M. f. philippinensis* (Ardith Eudey, pers. comm.). The following subspecies have been listed on the 2010 IUCN Redlist (23):

Subspecies	Geographic Range	Redlist Category	Population Trend
<i>M. fascicularis atriceps</i>	Khram Yai Island, southeastern Thailand	Data deficient	decreasing
<i>M. fascicularis aureus</i>	southern Bangladesh, Southern Lao PDR, Myanmar (including the Mergui Archipelago) and west-central Thailand	Data deficient	decreasing
<i>M. fascicularis condorensis</i>	Con Son Island, southern Viet Nam	Vulnerable	decreasing
<i>M. fascicularis fascicularis</i>	Indonesia (Bali, Jawa, Kalimantan, Lesser Sunda Is., Sumatera); Malaysia (Peninsular Malaysia) [NB: broader distribution given in Grove, <i>Primate Taxonomy</i> ]	Least Concern	decreasing
<i>M. fascicularis fuscus</i>	Pulau Simeulue, northwestern coast of Sumatra, Indonesia	Data deficient	decreasing
<i>M. fascicularis lasiae</i>	Pulau Lasia, northwestern coast of Sumatra, Indonesia	Data deficient	decreasing
<i>M. fascicularis karimondjawae</i>	Pulau Karimunjawa and (probably) nearby Pulau Kemujan, Java Sea, Indonesia	Data deficient	decreasing
<i>M. fascicularis philippinensis</i>	Philippines, on the islands of Balabac, Basilan, Biliran, Bohol, Busuanga, Camiguin, Catanduanes, Culion, Leyte, Luzon, northeastern Mindanao, Mindoro, Negros, Panay, Palawan, Samar and Sibuyan	Near Threatened	decreasing
<i>M. fascicularis tua</i>	Pulau Maratua, east Kalimantan, Indonesia	Data deficient	decreasing
<i>M. fascicularis umbrosus</i>	Nicobar Islands of India (Little Nicobar, Great Nicobar and Katchall)	Vulnerable	decreasing

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