

## Transfer of the Family Platysternidae from Appendix II to Appendix I

### Proponent: United States of America and Viet Nam

**Summary:** The Big-headed Turtle *Platysternon megacephalum* is the only species in the family Platysternidae. It is a small to medium-sized turtle (up to 18 cm carapace length) with a large head that occurs in Cambodia, China, Lao PDR, Myanmar, Thailand and Viet Nam. It is restricted to unpolluted, clear, cascading mountain streams usually within closed-canopy forest and bordering riparian areas. Because of historical deforestation, it is believed to be now largely restricted to protected areas. Reproductive characteristics are not well known, but based on captive observations individuals mature at five to nine years and females normally lay up to four eggs per clutch.

The species is collected for food and for the international pet trade, in which hatchlings are particularly highly sought-after because of their vivid colouration. Overall population estimates are lacking although some data are available from two recent studies. In Hong Kong, where collection pressure is low, a density of 60-145 individuals per km<sup>2</sup> has been recorded, while in Guangdong, China, in 2007-2009 only six individuals were found in over 2000 trap-days, with an inferred population density of 0.125 individuals per km<sup>2</sup> of suitable habitat. The difference is believed to be a result of different collection pressure in the two areas. Information on the current and historical status of the species elsewhere is patchy, with indications that it may be locally common in parts of Cambodia and Thailand. Anecdotal information indicates that the availability of the species in markets, chiefly in China, has declined considerably in the past two or three decades, and from this it is inferred that the wild population has also declined. The species was assessed in 2000 by IUCN as Endangered.

*Platysternon megecephalum* was included in Appendix II in 2002. Since then, around 1700 specimens have been reported in trade under CITES, the great majority in a single shipment of 1500 recorded by Viet Nam as imported from Lao PDR in 2006. These were reported as ranched specimens, which seems highly unlikely: the species does not breed readily in captivity and it is believed that most, if not all, specimens in trade are of wild origin. No exports were reported by Lao PDR in that year. Juveniles of the species fetch high prices in the international pet trade.

**Analysis:** *Platysternon megacephalum* occurs relatively widely in Southeast Asia and would not appear to have a restricted range under the terms of *Resolution Conf. 9.24 (Rev. CoP15)*, although within its range it is restricted to unpolluted areas of habitat. There are no overall population estimates for the species; given the size of the range, and observations of some reasonably high population densities, it seems unlikely that the population is small under the guidelines in Annex 5 of the Resolution. Anecdotal information based on market observations and low population densities in an area where the species is believed to have been exploited indicates that the population has declined in recent years. However, there is insufficient information to determine whether this decline would be considered a marked decline as set out in Paragraph C of Annex 1 to *Resolution Conf. 9.25 (Rev. CoP15)*. On current information, it is not possible to determine whether this species meets the biological criteria for inclusion in Appendix I. The species is in demand for international trade.

Supporting Statement (SS)	Additional information
<u>Taxonomy</u>	
Family Platysternidae containing the single species <i>Platysternum megacephalum</i> .	

Supporting Statement (SS)	Additional information
<b>Range</b>	
Cambodia, China (including Hong Kong SAR), Lao PDR, Myanmar, Thailand and Viet Nam.	
<b>IUCN Global Category</b>	
<i>Platysternum megacephalum</i> is classified as Endangered (Assessed 2000).	<i>Endangered A1d+2d ver 2.3. Assessment needs updating.</i>
<b>Biological criteria for inclusion in Appendix I</b>	
<b><u>A) Small wild population</u></b>	
<b>(i) Population or habitat decline; (ii) small sub-populations; (iii) concentrated geographically during one or more life-history phases; (iv) large population fluctuations; (v) high vulnerability</b>	
<p>Limited population data are available due to a lack of intensive studies of <i>P. megacephalum</i>. Although restricted to unpolluted clear cascading mountain streams usually within closed-canopy forest and described as rare, suitable habitat can be found throughout its range and it is reported in some areas in Thailand as locally common. Although no specific data is available on the population parameters for this species, it is thought to reach maturity at between five to nine years old and to have a relatively low annual reproductive potential (captive observations report up to four eggs per clutch).</p> <p>In Cambodia anecdotal information suggests that the species is fairly abundant in suitable riparian habitats but that populations may be small because of limited habitat.</p> <p>In China the species is considered endangered and is now rarely seen in the wild, and field surveys have revealed low abundances in southern China. More recently, the species was commonly found in the Guangdong Province, being collected by local hunters and residents almost entirely from nature reserves.</p> <p>There is no current data available for Hong Kong, but it was reported that the species was regularly recorded in some of the stream systems in central New Territories indicating that fairly stable populations existed.</p> <p>In Lao PDR it is thought that populations of the species are probably quite reduced.</p> <p>No information is available on the species status in Myanmar.</p> <p>In Thailand in 2000, the species was reported as uncommon to locally fairly common, and it has been suggested that a few large populations may be present in</p>	<p><i>Between 2007 and 2009, 29 streams and 365 trapping sites were surveyed in Guangdong, China, and in 2031 trapping days only six P. megacephalum were found. A density of 0.125 individuals per km<sup>2</sup> of suitable habitat was estimated from this (Wang, 2010).</i></p> <p><i>A field study of populations in Hong Kong, which are better protected, show densities ranging from 60 to 145 individuals per km<sup>2</sup> (Sung, 2012). This huge difference in density is likely to be due to intense trapping in Guangdong.</i></p>

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<p>remote areas that are difficult to access or near villages where turtles are not regularly sold or eaten.</p> <p>In Viet Nam in 2000, the species status was unknown, but it is considered rare.</p>	
<p><b><u>B Restricted area of distribution</u></b></p>	
<p><b>(i) Fragmented or localised population; (ii) large fluctuations in distribution or sub-populations; (iii) high vulnerability; (iv) decrease in distribution, population, area or quality of habitat, or recruitment</b></p>	
<p>While the species is found across six countries, it is restricted to specific riparian habitats. <i>P. megacephalum</i> inhabits unpolluted clear cool rocky mountain streams within forest areas and also within the bordering riparian habitats. Due to historical habitat loss (largely forest destruction) it is now restricted to protected areas across much of its range. There is ongoing substantial habitat degradation and destruction particularly in China (the primary range state), including deforestation, water pollution, and the construction of small hydro-electric facilities.</p> <p>Despite now largely being restricted to protected areas, this species is still highly vulnerable to collection for trade, except for those parts of its range that are difficult to access, and in Hong Kong, where there is better enforcement.</p>	<p><i>Due to the habitat requirements of this species and past levels of deforestation within its range, suitable habitat is somewhat restricted. However, P. megacephalum does occur within protected areas and the greatest concern is the very low numbers found within suitable habitat, or the lack of individuals at all (Wang, 2010).</i></p>
<p><b><u>C) Decline in number of wild individuals</u></b></p>	
<p><b>(i) Ongoing or historic decline; (ii) inferred or projected decline due to decreasing area or quality of habitat, levels of exploitation, high vulnerability, or decreasing recruitment</b></p>	
<p>For much of its range there is a lack of data on the population trend. However it has been impacted by the increased turtle trade since the 1990s and is consistently reported by locals as having drastically declined due to over-harvesting. Previously reported as a common species in some areas, this species is now rare to find in market surveys indicating a decline in wild populations. In Viet Nam, an over 50% population decline is estimated in the last 10 years due to over-harvesting. The high market price that this species commands encourages ongoing trade. As this species does not readily breed in captivity the trade is based on wild populations.</p> <p>In Cambodia no information is available on population trends for this species. In China this species was previously common in the food markets, but now only low numbers of individuals turn up indicating that wild populations have drastically declined. For Hong Kong, published population trend data is lacking In Lao PDR wildlife inventories have been limited to short-term studies and the scarcity of turtles recorded during those surveys suggests that turtle populations have declined. There was also a perception among local villagers that suggests declines in turtle populations in the 1990s. Although in Myanmar there is a lack of information for this species, the available evidence for the status of all turtle populations suggests</p>	

Supporting Statement (SS)	Additional information
<p>declines may have occurred as a result of over-harvesting for both local consumption and to meet the demands of export markets. In Thailand in 2000, the species population trend was reported as unknown and presumed stable where not exploited. Informal interviews with local villagers suggest that the species is less common now than in the past due to hunting and are likely declining in numbers. In Viet Nam the population trend is unknown. As with other species in Viet Nam, natural populations of <i>P. megacephalum</i> are unlikely to sustain present levels of collection. Turtle hunters now report a significant decline in the number of turtles found. In Viet Nam over a 50% population decline is estimated in recent years (10 years) due to the over harvesting.</p> <p>This species was listed as Endangered on the IUCN Red List in 2000 when the Asian Turtle Working Group estimated that there had been a population decline of 50% or more within the last three generations due to exploitation (A 1d) which is projected to continue into the future (A 2d). This assessment is now considered out of date. Experts attending the Conservation of Asian Tortoises and Freshwater Turtles Workshop in 2011 considered that <i>P. megacephalum</i> qualifies for critically endangered using the IUCN categories and criteria due to an inferred past decline of 80% or greater in the past three generations, due to exploitation.</p>	

#### Trade criteria for inclusion in Appendix I

#### The species is or may be affected by trade

<p>Collected throughout much of its range, it is likely that the majority of animals are traded rather than used for subsistence, due to the high market value. It is traded domestically and internationally in both the pet market (hatchlings and young juveniles) and in the food market (adults), in which hatchlings now command higher prices than adults due to their bright vivid colours.</p> <p>In China, the species is mainly collected for the food trade. In Thailand the species is threatened by collection for consumption in relation to traditional Chinese medicine, for pet trade and <i>ex situ</i> captive breeding programs. In Hong Kong the species has been recorded as being used as food and as pets.</p> <p>In Cambodia the domestic pet trade is considered minor when compared to the much larger international trade, and it is likely that any turtles collected are taken directly to markets in Viet Nam rather than to Cambodian markets.</p> <p><i>P. megacephalum</i> comprised 9% of all live turtles imported into China between 1998 and 2002 (pre CITES listing), and the species is considered to be traded in significant numbers.</p>	<p><i>The CITES trade database lists 1692 animals as imported 2004–2011, of which 1683 were live. Of all animals imported, 99% were recorded as imported for commercial purposes. One shipment of 1500 ranched individuals was reported as imported by Viet Nam from Lao PDR in 2006 (although no exports were reported by Lao PDR in that year). Overall, 89% of animals were recorded as ranched from wild-born individuals, and another two per cent were recorded as of wild origin. Animals recorded as pre-Convention stock accounted for nine per cent of reported imports; there was one individual recorded as bred in captivity. In addition to the live trade, seven wild-taken dead specimens were reportedly imported and two specimens and 266 g of <i>P. megacephalum</i> reportedly exported, for scientific purposes.</i></p> <p><i>For all (re-)exports, there was a total of 190 animals, plus 266 g of specimen for scientific purposes. Of whole animal (re-) exports, 93% were recorded as being for commercial purposes, with four per cent recorded as for exhibit and two per cent for</i></p>
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<p>In Viet Nam records indicate that 50 <i>P. megacephalum</i> were legally exported between 1994 and 1999.</p> <p>According to the CITES Trade Database, there are records for <i>P. megacephalum</i> from 2004 to 2011. Data for 2011 are not considered because they may be incomplete, therefore a total of 7 years of trade data are being presented. All <i>P. megacephalum</i> imports for the mentioned years account for 1691 animals mostly for commercial purposes (44%) followed by circus/traveling exhibits (27.8%) and scientific (22%) purposes. Almost all of the imports were of pre-Convention specimens (61%) and wild sources (33%). For all (re-) exports, there were a total of 453 animals mostly for commercial purposes (44%) followed by circus/travel exhibits (25%) and scientific (18.8%). Almost all of the (re-) exports were of pre-Convention specimens (75%) and wild sources (18.8%). The majority of all the trade consisted of live animals followed by a few specimens for scientific purposes.</p> <p>There appears to be a high level of legal and illegal trade throughout its range, although much of the information is either anecdotal, or generalised to all turtles. Illegal animals are frequently seized, for example, for 2007-2008, police in Thailand seized 81 <i>P. megacephalum</i>, and in Viet Nam between 2006-2011, 73 individuals were seized by law enforcement agencies and transferred to the Turtle Conservation Centre.</p> <p>It is believed that the majority of traded animals are from wild populations as this species does not breed readily in captivity.</p>	<p>zoos. <i>The vast majority of whole animals (97%) were recorded as pre-Convention animals, with three individuals recorded as captive-bred and two as of wild origin (UNEP-WCMC, 2012).</i></p> <p><i>During their surveys, 2007–2009, Wang et al. (2010) found 77 illegal hunting traps in the field and were informed of 110 illegal trappings by locals through interviews. Furthermore, they had 16 of their own traps stolen during the research. Over 100 <i>P. megacephalum</i> specimens were found for sale during the market surveys in 30 cities at prices of RMB1000-1800/kg (~EUR125-225/kg).</i></p>

### Other information

### Threats

This species is threatened both by habitat degradation and loss, and substantial declines from over-harvesting for commercial purposes.

Deforestation and the construction of small hydro-electric plants, and the liming of streams within the species range, causes habitat destruction and degradation.

*In Guangdong, China, 77 traps were found in an area of 16 km<sup>2</sup> of *P. megacephalum* habitat (Wang, 2010).*

### Conservation, management and legislation

It has been listed in Appendix II of CITES since 2002.

China, Thailand, and Viet Nam (2007) have all listed the species as endangered in their own countries Red Data Book of Endangered Animals.

*P. megacephalum* has different levels of protection within the range countries: In Cambodia it is not specifically listed for protection, but is protected through laws

Supporting Statement (SS)	Additional information
<p>preventing the hunting, consumption or trade of wild animals. In China hunting for commercial purposes, consumption and export is strictly restricted, and permits for import will not be issued for any turtles with a carapace of less than 10 cm long. It is listed as a protected species in Hong Kong, Lao PDR, Myanmar, Thailand and Viet Nam.</p> <p>In 2011 a Conservation of Asian Tortoises and Freshwater Turtles Workshop was held and <i>P. megacephalum</i> was considered as a species likely to be listed as Critically Endangered in the near future. Recommendations were made to increase efforts to protect wild populations and their habitats, along with an increase in anti-poaching efforts. This concurs with other conservation needs for the species which have been published (see Supporting Statement for details), alongside further measures such as the recommendation of translocation programs. Emphasis is made on the need for effective and enforced legislation to protect the species across its native range.</p>	
<b><u>Similar species</u></b>	
<p><i>P. megacephalum</i> is the only species within the family Platysternidae with distinct morphological characteristics.</p> <p>It is most likely to be confused with New World snapping turtles but these do have differing shells.</p>	
<b><u>Captive breeding/Artificial propagation</u></b>	
<p>This species does not breed readily in captivity and even dedicated efforts within zoos and other institutions have failed to achieve successive years of captive breeding. No assurance colonies have been established. The most successful attempts at captive breeding suggest this species has a low annual reproductive potential (clutch size of up to four eggs, sexual maturity reached at five to nine years old) with specific habitat requirements and is therefore not a species that can readily rely on captive breeding attempts to supplement wild populations.</p>	<p><i>A wild population studied in Hong Kong showed females reached sexual maturity at an average age of eight years (Sung, 2012).</i></p>

**Reviewers:** M. Lau, C. Shepherd.

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