CONVENTION ON INTERNATIONAL TRADE IN ENDANGERED SPECIES
OF WILD FAUNA AND FLORA

Eighteenth meeting of the Conference of the Parties
Colombo (Sri Lanka), 23 May – 3 June 2019

Species specific matters

DRAFT DECISIONS ON THE CONSERVATION OF AMPHIBIANS (AMPHIBIA)

1. This document has been submitted by Costa Rica.*

2. Amphibians are the most threatened class of vertebrates worldwide. According to the IUCN Red List of Threatened Species, "of the 6260 amphibian species assessed, nearly one-third of species (32.4 %) are globally threatened or extinct, representing 2030 species". This is considerably higher than the comparable figure for birds (13 %) or mammals (22 %) (IUCN Red List 2016). The number of species classified as Critically Endangered, Endangered, or Vulnerable has increased throughout the world due to a number of threats, including habitat loss, trade, and disease. While loss of habitat and disease are considered to be the major threats to amphibian populations, harvesting for human use is a further pressure, sometimes posing the greatest threat (IUCN, 2016).

3. Amphibians occur throughout the world, with diversity nuclei in Central America, South America, East and Central Africa, East and South Asia, and Madagascar (Abraham et al. 2013; Jenkins et al. 2013; Pratihar et al. 2014; Pimm et al. 2014, among other authors). Amphibians live in a variety of terrestrial and freshwater ecosystems, ranging from tropical forests to deserts (Stuart et al. 2008).

4. Amphibians have been an important part of human culture for millennia and traditionally served as a source of food (e.g., Mohneke et al. 2010). In the 1980s, when large quantities were traded as pets, the first amphibian taxa were included in the CITES Appendices. Frogs, in particular, have long been eaten practically anywhere they occur, often in huge amounts. International trade from the 1950s onwards accounted for more than 4000 tons of frog meat per year, rising to over 5000 tons in recent years. Although local frog meat consumption is exceptionally high in many parts of Africa and Asia, it is nonetheless difficult to determine quantities because of the large volumes involved, the lack of data collection by authorities, and unreported (illegal) trade (e.g., Warkentin et al., 2009; Mohneke et al., 2010). Further, frogs are also collected for food, medicinal and gourmet products. Frog *hasma* (oviducts of female frogs), for example, is a delicacy in China and East Asia, including Singapore and Hong Kong, where eating *hasma* for dessert is popularly considered a sign of wealth (Whiteman, 2016). In Thailand and other countries in south-east Asia, dried and smoked frog meat is added to rice dishes (Whiteman, 2016). Here again, it is difficult to estimate the level of local consumption, but it is probably higher than the number of frogs harvested for international trade (Bickford, personal communication).

5. International trade in amphibians for use as pets, bait, medicinal products, and food contributes to the overharvesting of the taxon (Gerson, 2012; UNEP 2016). It is estimated that 41 % of the 6424 amphibians assessed by the IUCN are globally threatened, including 435 species that are in rapid decline, and 50 species that are in decline as a result of high harvesting levels (UNEP, 2016). It is estimated that more than one billion frogs are traded internationally every year to meet the demand for frog legs in the United States of America and Europe, particularly France and Belgium (Gratwicke et al., 2009; Mohneke et al., 2009; Warkentin et al.; 2009, Altherr et al., 2011). France and India have prohibited the harvesting of native frogs,

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* *The geographical designations employed in this document do not imply the expression of any opinion whatsoever on the part of the CITES Secretariat (or the United Nations Environment Programme) concerning the legal status of any country, territory, or area, or concerning the delimitation of its frontiers or boundaries. The responsibility for the contents of the document rests exclusively with its author.*

which now means that the majority of these frogs are imported from south-east Asia (Altherr et al., 2011). Originally, most frogs were sourced from Bangladesh and India, but the main source of frog legs is currently Indonesia, which accounts for almost half of the frogs found in international trade (Gratwicke et al., 2009). Between 2000 and 2009, the European Union imported a total of 46 400 tons of frogs, mainly from Asia, averaging between 93 and 230 million frogs per year (Jensen & Camp 2003; Altherr et al., 2011). The status of globally threatened amphibians on the IUCN Red List due to continuing trends of unsustainable exploitation (UNEP, 2016) illustrates the effect of overuse by humans.

6. The high demand for frog meat has severely depleted the populations of many species throughout the world (Jensen & Camp, 2003; Carpenter et al., 2007). More than 20 species are harvested on a commercial scale in south-east Asia (Altherr et al., 2011; Kusrini & Alford, 2006), as a result of which, the populations of these species are in decline, e.g., 12 of the 39 frog species harvested in China are in rapid decline (Carpenter et al., 2007). Two species occurring in Asia are currently listed in CITES Appendix II (Altherr et al., 2011). Both UNEP (2016) and Carpenter (2007) reported over 200 species that are hunted or trapped for human consumption, and more than 260 for the international pet trade. Between 2006 and 2015, 37,434,030 specimens and 41,805,503 kg of amphibians were traded in the United States of America, including 293,538 specimens and 25,180 kg of CITES-listed species (U.S. Fish and Wildlife Service, LEMIS Wildlife Trade Database).

7. Although frog breeding meets an increasingly important part of the global demand for frog legs, in several countries, millions of frogs are collected from the wild to meet international demand (Altherr et al, 2011). The use of wild specimens to sustain this trade targets a limited number of large-bodied frog species such as: *Limnonectes* spp. and *Fejervayra* spp. (Altherr et al., 2011). Some experts have noted that current harvesting levels are far from sustainable, even for frog species with increasing or stable populations (Lau et al, 2008, Warkentin et al., 2009; Bickford pers. comm.; 2010, Mohneke et al., 2011).

8. Further, rare or hard-to-obtain species (i.e., species that occur in countries where commercial exports of native species are prohibited) are often targeted for the hobbyist trade. Whenever these rare specimens reach the pet markets, there is a dramatic increase in the demand from frog hobbyists, which can lead to more specimens of the same species being harvested from the wild and traded. Recent studies of illegal trade markets in Asia show high levels of international trade in *Dendrobates* frogs – six times higher than in 1996 (Nijman, 2010).

9. In the period 2005–2014, exports from the Amazon region for the international pet trade amounted to 90 000 USD per year. Four species alone accounted for 85 % of trade *(Dendrobates tinctorius, Ameerega tinctorius, Ameerega trivittata, Ranitomeya ventrimaculata* and *Dendrobates leucomelas*) (Sinovas et al., 2017). On average, some 2500 live *Dendrobates* specimens were exported from the Amazon region in the period 2005-2014 (Sinovas et al., 2017), the vast majority to Europe and North America (Sinovas et al., 2017). Further, Nijman & Shepherd (2010) noted that, according to the WCMC-CITES database, between 2004 and 2008, CITES was informed of 32 species in trade: 63 165 live specimens of *Dendrobates* frogs pertaining to four genera, i.e., *Dendrobates, Phyllobates, Epipedobates* and *Cryptophyllobates*. Except for one species (*E. trivittatus*), most of the specimens were reported as captive-bred; all imports of 21 species were reported as captive-bred (captive-bred and F1 born in captivity). Seven species were bred at relatively small farms (mainly in Panama and Peru), and imports of five species included wild-collected specimens (Guyana, Panama and Suriname). Brown et al. (2013) described trade-related problems in countries of origin, e.g., mortality throughout the supply chain prior to export.

10. Legal trade of CITES-listed and non-CITES species occurs at a regional level. Between 2006 and 2012, 41 amphibian species listed in CITES Appendix II, e.g., *Ambystoma mexicanum*, were traded online (Barroso de Magalhaes & Sao-Pedro 2012). Illegal online wildlife trade seems to be on the increase, and several such cases have been detected in south-east Brazil where native reptile and amphibian species are sold on social media platforms (Magalhaes et al, 2012). Further, between 1996 and 2008, TRAFFIC reported seizures of shipments containing between 22 and 3000 specimens – an average of 250 individuals per shipment. A further seizure contained 49 kg of fat estimated to have been obtained from 100 000 frogs (Rosen & Smith 2010).

11. Amphibians are in the midst of a global pandemic in which the fungus *Batrachochytrium dendrobatidis* (*Bd)* is potentially causing the greatest biodiversity loss due to disease in reported history (Skerratt et al. 2007). Amphibians are currently facing a global extinction crisis, with one-third of the species considered to be endangered or extinct (UNEP, 2016). In recent decades, the fungus *Bd* has caused the decline and extinction (often in the space of just one year) of at least 200 frog species (Wake & Vredenburg, 2008), including mass mortality events in Panama (Lips et al., 2006). These events occurred even in remote and pristine habitats (e.g., La Marca et al. 2005; Skerratt et al. 2007). A recently discovered pathogen, *Batrachochytrium*

salamandrivorans (Bsal) is contributing to severe declines in salamander populations worldwide (Martel et al., 2013, UNEP-WCMC, 2016, Stegen et al., 2017). This pathogen is vectored through the wild frog trade (Nguyen et al., 2017).

12. Basically, global amphibian trade also means global trade in *Bd* and *Bsal* fungi, making this one of the most detrimental forms of trade in terms of the environment. The international amphibian trade has been implicated in the spread of chytridiomycosis, the cause of drastic declines in species in the continents (UNEP, 2016). Martel et al. (2015) established a possible strong link between amphibian decline and new pathogens introduced into wild populations through the amphibian trade. Gilbert et al. (2013) also found a direct link between the diseases present in the live amphibian trade and diseases affecting native frog populations in Singapore. Subsequent studies have confirmed that trade is the only viable pathway for introduction, refuting claims that the *Bd* pathogen had been historically present in Singapore (D. Bickford, pers. comm.). Further expansion of this fungus will behave as a 'perfect storm' that is able to rapidly extirpate highly susceptible salamander populations (Martel et al, 2015; UNEP-WCMC, 2016).

13. Global trade of the American bullfrog (*Lithobates catesbeiana*) for food has been linked to the introduction and establishment of the species in non-native countries such as Brazil, China, Colombia, France, Indonesia, Italy, Japan, the Philippines, the United Kingdom, among others (IUCN, 2015). While American bullfrogs are resistant to *Bd*, they are nonetheless global vectors of the disease (Garner et al., 2006). *Bd* fungus has been detected in introduced and imported American bullfrogs throughout the world (Goka et al., 2009; Schloegel et al., 2009, 2012; Farrer et al., 2011; Gilbert et al., 2013; Bataille et al., 2013; Jenkinson et al., 2016). It is estimated that 62 % of American bullfrogs imported to the Unites States of America are carriers of *Bd* fungus (Schloegel et al., 2009). More than 23 million American bullfrogs were imported to the United States of America in the period 2004–2014 (USFWS – LEMIS). Although the American bullfrog is currently classified in the IUCN category of Least Concern, global trade in this species is threatening the lives of many other amphibian species (Giovanelli et al, 2007).

14. The implications for conservation brought by the dual impact of overharvesting and pandemic disease are significant in the case of amphibians. Two international workshops on amphibian trade, held in Washington, D.C. and Singapore in 2015, highlighted the need to gain better knowledge of amphibian harvesting and trade and to evaluate the impacts of this commercial harvesting. The lack of data on actual threats to wild populations from human use is a recurrent topic in conservation literature (see Warkentin et al., 2009).

15. In some cases, the negative effects of collection are evident: "Nowadays many wild populations occur in such fragmented habitats such that intensive collecting of animals may potentially become a real threat to the survival of many species" (Todd, 2011; Lyons & Natusch, 2011). "Reptiles and amphibians that are overcollected for food or the pet trade have taken the brunt of the effects of habitat destruction" (e.g., Schlaepfer et al., 2005; Andreone et al., 2006)" (Gibbons et al., 2000; Stuart et al., 2004).

Recommendations:

16. The international amphibian trade poses a significant threat to native populations of wild amphibians. Therefore, we recommend that the Secretariat consult the International Organization for Animal Health and provide that organization with information on the global amphibian trade. Increased amphibian trade poses the threat of fungi spreading across borders and between species (Kolby & Daszak, 2016). Further expansion of the fungi *Bd* and *Bsal* may eradicate highly susceptible amphibian populations (Mertel et al, 2015; UNEP-WCMC, 2016). Further, this fungus poses an overwhelming threat to global amphibian diversity and is contributing toward population declines and extinctions worldwide (Kolby & Daszak, 2016; UNEP-WCMC, 2016).

17. We need to evaluate the impacts of legal and illegal international trade on amphibian populations so that CITES and the "Parties" have the best information to enable them to prevent further decline of wild populations, avoid issuing C, F, and R permits for wild specimens, and implement in situ conservation measures. We recommend that a study be conducted to examine the biological, application and compliance issues associated with the international amphibian trade. The study should examine the impact of amphibian harvesting and production systems in the countries of origin, as well as the potential impacts of trade on amphibian populations and the trade dynamic in destination countries. The study could look at aspects such as the production systems for CITES-listed amphibians and the use of source codes, information and guidance on NDFs, a study on one or more high-value amphibian species in the pet trade to determine the impact of legal and illegal offtake for international trade on wild populations, and a study on methods to distinguish amphibians in trade from CITES-listed species. O8n completion, the conclusions and

recommendations of the study should be reported to the Animals Committee, the Standing Committee, and the 19th meeting of the Conference of the Parties.

18. Accordingly, the countries recommend that the following decisions be adopted:

COMMENTS OF THE SECRETARIAT

A. The Secretariat acknowledges the value of the background information submitted by Costa Rica, which provides an overview of the conservation status and threats faced by amphibians. However, the Secretariat notes that many of the pressures mentioned in document CoP18 Doc. 62 that are threatening amphibians, such as disease, and habitat loss and degradation, are beyond the scope of the Convention, and recognizes that these concerns would have to be addressed in different fora. Furthermore, in the document and its recommendations, a clear distinction between CITES-listed and non-CITES listed amphibian species is not always made.

B. Concerning the draft decisions proposed in Annex 1, the Secretariat is of the view that some may be redundant, and that the implementation of others could prove to be problematic.

   i) Draft decisions 18.AA, 18.BB and 18.CC call for measures that seem duplicative of existing provisions and mechanisms of the Convention, such as permitting requirements for regulation of trade (Articles III to V); measures to be taken by Parties (Article VIII); international measures (Article XIII), and associated compliance mechanisms and guidance contained in *inter alia* Resolution Conf. 16.7 (Rev. CoP17) on *Non-detriment findings*, Resolution Conf. 12.8 (Rev. CoP17) on *Review of Significant Trade in specimens of Appendix-II species,* Resolution Conf. 12.3 (Rev. CoP17) on *Permits and certificates*, Resolution Conf. 11.3 (Rev. CoP17) on *Compliance and enforcement*, Resolution Conf. 17.7 on *Review of trade in animal specimens reported as produced in captivity*, and Resolution Conf. 11.19 (Rev. CoP16) on *Identification manual*; and capacity building activities specified in resolutions and decisions (see document CoP18 Doc. 21.2), including on non-detriment findings (see proposed decisions in document CoP18 Doc. 45 on *Non-detriment findings*).

   ii) Draft decisions 18.EE, 18.FF and 18.GG call for studies and workshops that cover all amphibian species, noting that most are not listed under CITES, and may not be in trade or threatened by trade (of the over 7,000[1] described species of amphibians, only 162[2] are currently included in the CITES Appendices). Safeguarding species' conservation in the context of threats unrelated to international trade, and particularly for species which are not in the Appendices, is beyond the scope of the Convention. The implementation of the proposed activities would require significant financial resources, which are not further discussed in the document.

   iii) Concerning the amphibian species which are currently included in the Appendices, document CoP18 Doc. 62 does not explain why the implementation of the current listings of these species, and the species-specific CITES monitoring systems that are applicable to them (e.g. Review of Significant Trade and Review of animals reported as produced in captivity) would be insufficient to prevent international trade from further endangering the species' survival. The need for the adoption of the proposed decisions remains therefore unclear.

C. On the basis of the above, the Secretariat recommends that the decisions proposed in document CoP18 Doc. 62 not be adopted. The issues discussed in this document somewhat relate to those brought up in document CoP18 Doc. 87 on *Conservation of the Titicaca water frog (*Telmatobius culeus*).* Costa Rica may therefore wish to liaise with the proponent of that document to exchange experiences on the trade in, and conservation management of, amphibian species, and perhaps consider bringing issues relating to trade in CITES-listed amphibians to the attention of the Animals or Standing Committees, as appropriate.

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[1] *https://amphibiaweb.org/declines/declines.html (accessed 24-02-2018).*

[2] *CITES Appendices I, II and III (valid from 4 October 2017); https://cites.org/eng/disc/species.php (accessed 24-02-2018); 24 species are listed in Appendix I; 134 in Appendix II; and 4 in Appendix III.*

DRAFT DECISIONS OF THE CONFERENCE OF THE PARTIES

18.AA to 18.GG Amphibians

18.AA ***Directed to Parties***

Parties trading in amphibians are recommended to:

a) verify the origin of specimens traded between countries in the region; and

b) ensure the appropriate use of source codes.

18.BB ***Directed to Parties***

Parties should eliminate the substantial amount of illegal and unreported trade in specimens of CITES-listed amphibian species, whether live specimens, or parts and derivatives thereof, by:

a) ensuring that CITES permits and certificates are appropriately issued in the case of trade in these specimens;

b) including information on trade in these specimens in their CITES annual reports;

c) ensuring that their annual reports are in accordance with the most recent version of the Guidelines for the preparation and submission of CITES annual reports, as provided by Resolution Conf. 11.17 (Rev. CoP17) on National reports;

d) examining their enforcement efforts regarding trade in these specimens to ensure that adequate steps are taken to deter and detect illegal and unreported trade;

e) undertaking education and outreach activities targeting amphibian farms, buyers and sellers of live amphibians or parts and derivatives thereof, product manufacturers, shippers, brokers, and staff from government agencies involved in controlling and monitoring this trade, to ensure that amphibian trade complies with national laws and CITES provisions; and

f) reporting to the Secretariat on their efforts in this regard, in time for a report to be submitted to the XX meeting of the Standing Committee.

18.CC ***Directed to the Animals Committee***

The Animals Committee shall continue its review of the guidance on non-detriment findings for the export of CITES-listed amphibian species, including any new information on the trade, sustainable use, and conservation of amphibians, and shall submit its recommendations to the Standing Committee, as appropriate.

18.DD ***Directed to the Standing Committee***

The Standing Committee shall:

a) consider the reports and recommendations from the Animals Committee submitted in accordance with Decision (Animals Committee), and any other relevant information;

b) make recommendations to the Parties, the Animals Committee, and the Secretariat, as appropriate; and

c) report on the application of Decision (Animals Committee) at the 19th meeting of the Conference of the Parties, with recommendations for the consideration of the Parties.

18.EE ***Directed to the Secretariat***

The Secretariat shall make any relevant information on trade, sustainable use, and conservation of amphibians available to the Parties and the Animals Committee through the CITES website.

The CITES Secretariat shall, subject to external funding:

a) conduct one or more interdisciplinary workshops for CITES authorities and other relevant authorities and stakeholders in the range States of amphibian species in international trade, including the following topics:

   i) identifying amphibian species threatened by international trade;

   ii) assessing whether existing legislation, protected areas, and current levels of trade are compatible with the conservation of these species in the wild;

   iii) evaluating the possible listing of these species in CITES Appendices (including Appendix 3);

   iv) compiling further data on harvesting levels (i.e., primary catch and bycatch) of amphibians subject to high volumes of international trade; and

   v) the establishment of preventive management measures by exporting countries and other Parties, such as the designation of no-take zones or closed seasons, daily or seasonal harvest quotas, and improved national monitoring mechanisms and reporting on amphibians.

The workshop shall also include the following:

   vi) use of guidance for monitoring and controlling captive-breeding operations and other production systems;

   vii) use of guidance for making non-detriment findings and establishing export quotas for Appendix-II amphibian species in trade; and

   viii) a report on workshop outcomes and activities to the Animals Committee and the Standing Committee, as appropriate, before the 19th meeting of the Conference of the Parties.

18.FF ***Directed to the Secretariat***

The Secretariat shall:

b) subject to external funding, prepare a report, in cooperation with relevant organizations and in consultation with range States and relevant States, at least two months before the XX meeting of the Standing Committee, to include the following:

   i) conservation status of amphibian species at national and global levels;

   ii) available information on levels of legal and illegal trade;

   iii) relevant information on enforcement actions taken, including seizures, forensic analysis of seized specimens, arrests, prosecutions, and judgments relating to illegal amphibian trade, as well as disposal of seized specimens; and

   iv) new developments in specific measures for demand management, education, and awareness-raising concerning amphibians.

18.GG ***Directed to the Secretariat***

The Secretariat shall distribute the draft report to range States and other relevant States for comment. The final report shall be made available to the Standing Committee at its XX meeting. On the basis of the report and the input received from the range States and States concerned, the Secretariat shall formulate recommendations for the consideration of the XX meeting of the Standing Committee, as well as draft decisions for consideration by the Standing Committee and the Conference of the Parties, as appropriate.

TENTATIVE BUDGET AND SOURCE OF FUNDING
FOR THE IMPLEMENTATION OF DRAFT RESOLUTIONS OR DECISIONS

According to Resolution Conf. 4.6 (Rev. CoP16) on *Submission of draft resolutions, draft decisions and other documents for meetings of the Conference of the Parties*, the Conference of the Parties decided that any draft resolutions or decisions submitted for consideration at a meeting of the Conference of the Parties that have budgetary and workload implications for the Secretariat or permanent committees must contain or be accompanied by a budget for the work involved and an indication of the source of funding.