U.S. Fish and Wildlife Service
Division of Scientific Authority
Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)
Record of Advice on Import Permit Application

Application Number:	84993D
Date Received by DSA:	September 29, 2020
DMA Contact:	Rogelio Hubbard
Applicant:	Richard Blauw Caledonia, Michigan
Specimens and Species:	Leopard (*Panthera pardus*) Wild (Zambia) One (1) personal sport-hunted trophy (life-sized mount; skin, skull, and claws)
Recipient:	Self
Type of Permit:	Appendix I Import (CITES)

ADVICE

After reviewing the above permit application, we find that the proposed import is likely to be for purposes that are not detrimental to the survival of the species.

Species Background:

The leopard (*Panthera pardus*) has one of the largest geographic ranges of any terrestrial mammal in the world and ranges from southern Africa, through the Middle East, to eastern Asia from South Africa to eastern China and Russian Federation (Stein et al. 2016). The African leopard (*P. p. pardus*) is one of about nine leopard subspecies and occurs primarily in sub-Saharan regions (Jacobson et al. 2016). A habitat generalist, the leopard – all subspecies considered – occupies mesic woodlands, grassland savannas, and forests (Hunt 2011). Trees are an essential habitat component. Leopards are solitary, nocturnal, and territorial (Hunt 2011). Home ranges are about 13–35 km^2 (Hunt 2011). Ambush predators, leopards prey primarily on

medium-sized ungulates, especially deer (Family Cervidae) (Hanssen et al. 2017). They also scavenge prey taken by other carnivores. These carcasses are often cached in trees beyond the reach of smaller, more numerous predators (Stein et al. 2016). Adult leopards have few natural predators (Hunt 2011). The total population size of the leopard is unknown. In southern Africa, a regional range loss of approximately 21% has been reported (Stein et al. 2016). Given their larger body size, males are more desirable and thus more susceptible than females to being harvested by trophy hunters (Braczkowski et al. 2015). In general, the current population trend is declining due to harvest and habitat loss and fragmentation (Stein et al. 2016).

In 1975, the leopard as *Panthera pardus* was included in CITES Appendix I (UNEP 2018). In accordance with Resolution Conf. 10.14 (Rev. CoP16) on *Quotas for leopard hunting trophies and skins for personal use*, there are numerical limits to the quantity of trophies and skins from some sub-Saharan countries that have been approved by the CITES Parties that can be traded annually (CITES 2013).

In 1970, the leopard as *Panthera pardus* with (three subspecies) was listed as Endangered on the *United States' List of Endangered Foreign Fish and Wildlife*, the precursor to the Endangered Species Act of 1973, as amended (Service 1970). This listing was revised in 1972 with the three subspecies being deleted as separate listings and all leopard subspecies included with the species listing (*Panthera pardus*; Service 1972). This listing was modified in 1982 when certain populations were classified as Threatened (Service 1982; "In Africa, in the wild, south of, and including, the following countries: Gabon, Congo, Zaire, Uganda, Kenya"). The leopard currently is subject to a 90-day status review (Service 2016, 2017, 2018).

In 2016, the African leopard as *Panthera pardus* ssp. *pardus* was categorized as Vulnerable A2cd (ver 3.1) by the IUCN Red List (Stein et al. 2016). This rangewide finding was based on loss of habitat and prey, and exploitation. These conservation threats are not well understood, have not ceased, and are likely to continue (Stein et al. 2016).

The leopard is part of a joint initiative by the Convention on Migratory Species (CMS) and CITES: Joint CMS-CITES African Carnivores Initiative (CMS 2017a,b). Recognizing the potential benefits of working together, the two organizations have agreed to conduct joint activities addressing shared species and issues of common interest. In this regard, the two organizations have prioritized actions on the leopard, as well as the African lion (*Panthera leo*), cheetah, (*Acinonyx jubatus*), and wild dog (*Lycaon pictus*). The conservation threats to be addressed include: habitat loss and fragmentation, conflict with humans, depletion of the prey base, and unsustainable or illegal trade practices. Specific joint actions are being developed and will be implemented over the next several years (CMS 2017a). These actions include cooperative conservation programs for carnivores in the several range States, as well as specific conservation activities (e.g., illegal trade analyses, biological monitoring, and capacity building).

According to Zambia's Department of National Parks and Wildlife (DNPW), there are two main leopard populations in Zambia which are centered in the Kafue and Luangwa Ecosystems and are comprised of several national parks (NP) and game management areas (GMA) (CITES 2018a:3). Five smaller populations occur in northwest Zambia in the Lunga NP area, Liuwa NP area in the west, Sioma-Ngwezi NP area in the southwest, and in the NPs and GMAs in the

Bangweulu area and Lake Mweru-Wantipa area in the north (CITES 2018a:3). DNPW reports that the current total leopard range in Zambia is at least 220,000 km^2 (CITES 2018a:3), which is similar to the extant range of 218,000 km^2 determined by Jacobson et al. (2016:Supp. Table 5).

No countrywide estimate of the leopard population in Zambia has been made (CITES 2018a:5). Previous research conducted in 2011, 2016 and 2017, on leopard densities in some NPs and GMAs within Zambia found densities between 1.88 leopards/100 km^2 and 8.2 leopards/100 km^2 (CITES 2018a:5). Therefore, given the extent of leopard range in the country and assuming a conservatively low overall density of between one and two leopards per 100 km^2, DNPW reports that the overall leopard population in Zambia is likely to be 2,000 – 4,000 individuals (CITES 2018a:5).

In the 2016 IUCN Red List assessment, Stein et al. (2016) stated that it is generally thought that the Zambia leopard population is healthy but declining outside of human dominated areas. The leopard population in Zambia appears to be decreasing from previous estimates with leopards disappearing from areas with increased human development and intensive conflict with humans (Haton et al. 2001, du Toit 2004, Fusari et al. 2006, Lindsay et al. 2014, as cited in Stein et al. 2016.)

According to DNPW, threats to the persistence of the leopard population in Zambia include habitat encroachment and fragmentation, bush meat poaching/snaring, human leopard conflict and prey depletion (CITES 2018a:36). In addition, illegal harvest is a potential threat to the species in Zambia as DNPW confiscated 110 illegal leopard skins between 2013 and 2017 (CITES 2018a:12).

BASIS FOR ADVICE

A. Applicant Information:

1. The applicant (Richard Blauw; Caledonia, Michigan) requests authorization to import one leopard (*Panthera pardus pardus*) personal, sport-hunted trophy from Zambia.

2. The purpose of the proposed import is personal use. The leopard was taken from the wild in Mumba Game Management Area (GMA) – Mumba West Hunting Block, Zambia, on September 2, 2020. The 2020 leopard hunting quota allocated for Mumba West Hunting Block has not yet been posted. A copy of the applicant's non-resident hunting license (S/No. 0005886) and permit to hunt in a game management area (S/No. 0007306) were included in the application.

B. Zambia Information:

3. Leopards in Zambia are managed under a sustainable use program that includes trophy hunting and are the beneficiary of several protective measures. The Wildlife Act of 2015 (Act) is the principal legislation guiding the management of wildlife in Zambia, and the DNPW is the only government department responsible for the management of wildlife, including leopards, in Zambia (CITES 2018a:7). The Act also provides for the promotion of opportunities for the

equitable and sustainable use of public wildlife estates; provides for the establishment, control and co-management of Community Partnership Parks for the conservation and restoration of ecological structures for non-consumptive forms of recreation and environmental education; provides for the sustainable use of wildlife and the effective management of the wildlife habitat in Game Management Areas; enhances the benefits of Game Management Areas to local communities and wildlife; involves local communities in the management of Game Management Areas; and provides for the development and implementation of management plans (CITES 2018a:7).

The Act also provides for stiffer penalties related to poaching and enforcing all wildlife related violations in Zambia (CITES 2018a:7). Hunting of all wild animals without a permit in Zambia is illegal (CITES 2018a:7). Further, it is a criminal offense to hunt, kill, capture or be in possession of a leopard specimen without a license (CITES 2018a:7). The leopard is considered a protected species under the Act and therefore attracts stiffer penalties without option of a fine (CITES 2018a:7). Other legislation includes regulations (Private Wildlife Estates) and Statutory Instruments already in force such as CITES, Hunting, and Elephant Hunting (CITES 2018a:7). According to DNPW, other Statutory Instruments are in preparation for the implementation of the Wildlife Act of 2015 and are currently under review, including (CITES 2018a:1,7-8):

- formulating specific regulations which place certain conditions on the hunting of leopards (and lions) in GMAs, including but not limited to: age-based regulations, banning the hunting of females, and setting a minimum number of days to hunt; and
- formulating regulations regarding off-take quota management that will regulate how quotas are set, approved and utilized, and will be based on the precautionary principle that requires the most up-to-date information be used on setting quotas.

4. Leopard hunting in Zambia is carried out in hunting blocks located in Game Management Areas surrounding National Parks in the Luangwa, Kafue and Lower Zambezi ecosystem and in Open Game Ranches/Conservancies (CITES 2018a:16). Game Management Areas (GMA) are a category of protected areas in Zambia designed to form buffer zones between National Parks and Open Areas (CITES 2018a:16). The main land use form in GMAs has been safari and resident hunting; however, a few GMAs have included photographic tourism (CITES 2018a:16). There are 36 Game Management Areas in Zambia covering 177,404 km^2. Open Game Ranches are unfenced private wildlife estates outside public protected areas that are reserved by a person or local community for wildlife conservation and management (CITES 2018a:16). The private sector and the community agree to protect wildlife on these privately owned or communal lands and in exchange for protecting the wildlife, DNPW issues the Open Game Ranches annual non-resident hunting quotas (CITES 2018a:16). Zambia currently has 17 registered Open Game Ranches covering over 2,500 km^2, of which 8 have a quota for leopards (CITES 2018a:16-17).

5. Quotas are set annually and are issued to hunting blocks in GMAs and Open Game Ranches (CITES 2018a:18). With quotas allocated on an annual basis, DNPW can react quickly to any difficulties in specific areas, whenever necessary to adjust or even suspend quotas (CITES 2018a:52).

6. Zambia has a participatory quota setting process that is based on scientific information derived from aerial surveys, ground counts, patrol sightings, local and expert opinion, and

hunting monitoring, as well as information provided by Community Resource Boards (CRBs), DNPW, lease holders/operators/professional hunters, and other organizations (CITES 2018a:18). The quota for leopards is set using information from hunting records and field observations derived from professional hunters, operators, and field officers (CITES 2018a:18). According to DNPW, this allows CRBs and DNPW to review the previous hunting season's offtake before setting the quota for the upcoming year (CITES 2018a:18). In approving the quota, management developed the sustainable maximum harvest rates which it uses to allocate and approve the leopard quota as follows (CITES 2018a:18):

- Prime hunting blocks = 3 leopard per 1,000 km^2
- Secondary hunting blocks and open game ranches = 1 leopard per 1,000 km^2
- Under stocked hunting blocks = 0 leopard per 1,000 km^2

DNPW states that in using these rates, the total number of leopards on quota that can possibly be issued in the entire country in any hunting season is 162 (CITES 2018a:18), which is 54 percent of the CITES approved export quota for Zambian leopard trophies and skins.

7. The Zambian government suspended leopard trophy hunting from 2013 to 2015 due to concerns and uncertainty about the conservation status of the population (Stein et al. 2016). According to DNPW, the suspension was lifted in 2016 when rural communities requested that the suspension be lifted due to the detrimental impact on their livelihoods of increased human-livestock-carnivore conflict with offsets from hunting revenues (CITES 2018a:1). In view of this, Zambia established a limited offtake that was within the CITES approved quota and that they believed was sustainable (CITES 2018a:1).

8. In reopening leopard hunting in 2016, DNPW consulted with independent leopard experts to get advice and held a workshop with stakeholders in April 2016, which resulted in the formulation of guidelines on leopard (and lion) hunting in Zambia (CITES 2018a:23). According to DNPW, the guidelines have since been re-drafted for gazetting as a Statutory Instrument and are considered as part of an adaptive process to manage leopard hunting in the country (CITES 2018a:23). In addition, DNPW states that the guidelines will be further reviewed at the end of the 2018 hunting season taking into account the experiences from the first two years of implementation since the suspension was lifted (CITES 2018a:23). The guidelines include (CITES 2018a:23):

1. Utilization must be based on scientific principles: use area size and leopard density, population status trends and prey availability;
2. Hunted leopards must be an adult; and
3. Use adaptive approaches in managing leopards. This may include varying quotas according to population status in a hunting area. Therefore, it is important to establish a monitoring mechanism that provides information on:
    A. Indicators that show the leopard trends in an area, such as:
        - Hunting effort - time spent to find the desirable trophy;
        - Hunting success – was the hunted leopard of desired and acceptable trophy size;
        - Trophy size - Size of skull, tooth measurements, body length, shoulder height, etc.; and
        - Age – the average age of lawful trophies.
    B. The status of habitat and prey in an area, including:

- Satellite images of the area;
- Encroachment levels; and
- Quantitative and qualitative indication of prey.

C. Regular collection of data on the hunted leopard with prompt checking on the accuracy of information provided, with:
- Skull, teeth, and hide to be examined, sampled and permanently tagged; and
- Certificates provided for proof of sampling and rating of trophy.

The guidelines also recommend (CITES 2018a:23-24): no hunting of female leopards, no hunting of any leopard born or held in captivity, no use of pre-recorded sounds in the hunting of leopards, no leopard hunting on fenced game ranches, leopard hunting only in Prime and Secondary areas and Open Game Ranches known to be rich in leopards and prey, and establishing a central place for trophy measurements and ageing of hunted leopards for export. According to DNPW, the long-term implementation and monitoring of the effectiveness of these guidelines and indicators allow for adaptive adjustment of leopard quotas (CITES 2018a:24).

9. As a result, Zambia's new management approach to leopard hunting is based on three pillars (CITES 2018a:24):

I. A conservative, precautionary quota, well below the recommended thresholds for sustainability;
II. An age–based harvest limit and strong monitoring of leopard offtakes; and
III. Significant and direct community benefits. This will ensure that leopard hunting in Zambia is sustainable and does not negatively affect the population. In addition, in the hunting concession agreements signed in 2015, no hunting outfitter has been guaranteed a leopard on quota. It is made clear that the quota for any species shall be based on scientific methods including the latest available survey and aging techniques.

10. To monitor quotas and trophy hunting in Zambia, wildlife officers accompany hunters on all hunts during the hunting season (CITES 2018a:28). The officer records activities related to the hunt on specified forms (i.e., Safari Hunting monitoring forms, trophy measurement forms, and a client questionnaire) (CITES 2018a:28). The officer endorses used licenses ensuring that they cannot be used again (CITES 2018a:28). In addition, the law requires that all harvested trophies be registered (CITES 2018a:28).

DNPW is also introducing a monitoring system specific for leopards (and lions). This monitoring system will be based on a Statutory Instrument which is in preparation, which will introduce a mandatory sampling system that requires trophy leopards meet or exceed a minimum size (or possibly age) as one measure for harvesting trophy leopards (CITES 2018a:29). The monitoring system will be based on specific forms that will help ensure proper compliance with the provisions of the law, including confirmation of legal licenses and collection of data associated with the hunt (including but not limited to: location, date, participants, and photos) (CITES 2018a:29). The monitoring system will be complemented by regular surveys for leopards throughout the GMAs using camera trap and other indirect monitoring techniques (CITES 2018a:29).

11. Leopard–human conflicts occur on the interface between communities and leopard range,

often resulting in "problem animals" being removed through lethal means (CITES 2018a:35). Fortunately, DNPW reports that the number of incidents of leopard–human conflict (HLC) is low in Zambia and retaliatory killings by livestock owners are not as prevalent as in other areas of Africa, however with increasing human populations, this may become an issue as human settlements expand (CITES 2018a:35,38). DNPW states that they apply an adaptive system that includes a procedure whereby reported cases of leopard damage are investigated by field officers and complete reports are reviewed by the most senior officer for immediate feedback (CITES 2018a:38). Interventions include: scaring leopards through blasting or killing the animals suspected to be responsible for the attack on livestock and humans (CITES 2018a:38). DNPW admits that this approach is considered incompatible with sustainable conservation of wildlife and may contribute to the decline in the leopard population; however, they state that they are committed to implement the best practices on HLC (for example, the HLC toolkit developed by the Niassa Carnivore Project) (CITES 2018a:38). According to DNPW, this will be done through the development of a specific policy on Human Wildlife Conflict that the department, pending the availability of funding, would like to devise as soon as possible (CITES 2018a:38).

12. According to DNPW, direct poaching of leopards is not believed to be significant (CITES 2018a:38). Between 2013 and 2017, DNPW confiscated 110 illegal leopard skins (CITES 2018a:12). As a result, DNPW is establishing an investigation into current levels of illegal trade and use of leopard skins (CITES 2018a:33). DNPW states that identifying levels and source routes will be a first step in controlling this potential threat to Zambia's wild leopard population (CITES 2018a:33).

13. Given the elusive nature of leopards, the vast areas where they occur in Zambia and its wide-ranging biology, DNPW states that it is almost impossible to obtain reliable population estimates that can be used with confidence for management purposes (CITES 2018a:14). Moreover, DNPW states that the cost of undertaking long-term intensive surveys across the many habitats where leopards occur in Zambia is beyond the financial capacity of the DNPW (CITES 2018a:14). For these reasons, DNPW is adopting an adaptive management framework approach to determine reliable estimates of population trends to assess how leopard populations are changing over time and at a scale relevant to management (CITES 2018a:14). Going forward, DNPW will adopt "best practices" that use a combination of intensive monitoring (i.e. systematic camera trap surveys at 20 strategic sites across the country), extensive monitoring that captures relative abundance indices, and information captured from leopards that are harvested by the hunting industry (CITES 2018a:14). DNPW acknowledges that these relative abundance indices are generally less accurate and precise, but they can be collected rapidly at a landscape scale and within the capacity of the DNPW and its stakeholders (CITES 2018a:14). DNPW also recognizes that more reliable and robust monitoring techniques are required to better assess and measure the population trend and therefore, they state that they are committed to developing long-term rigorous monitoring programs that can be used to monitor the status of leopard populations across its range in Zambia (CITES 2018a:14).

14. The CITES Scientific Authority of Zambia has considered the country's population of leopards, the quota-setting system and current precautionary quota, the newly implemented age-based harvest policy, the limited offtake, the adaptive management of leopards, and the current threats to leopards in Zambia, including loss of habitat, human-leopard conflicts, and levels of

illegal trade (CITES 2018a:51). Upon considering these factors and in accordance with Article IV of CITES and Resolution Conf. 16.7 (Rev. CoP17) on *Non-detriment findings*, the Zambian Scientific Authority concludes that the low level of offtake generated by trophy hunting is not detrimental to the survival of the leopard in Zambia (CITES 2018a:51). According to DNPW, the newly developed leopard management systems, Statutory Instruments and hunting reforms employ an adaptive management approach thereby ensuring long-term sustainability, health and enjoyment of Zambia's wild leopard populations (CITES 2018a:51).

C. CITES Export Quota Program

15. Within the context of CITES, Zambia initially had an approved export quota of 80 leopard skins established in 1983 at CoP4 (CITES 2018a:3). At CoP5 in 1985, Zambia proposed to increase its CITES export quota to 300 leopard trophies and skins per year in order to maintain and encourage sport hunting which had been a source of employment for local people (IUCN/SSC Cat Specialist Group 2017:94). The increase of the quota to 300 was adopted by the Conference of the Parties and has remained at that level ever since.

Although the approved CITES export quota has been 300 leopard trophies and skins per year, the annual leopard quotas established by Zambia and the actual hunting trophy exports have been less. Between 2005 and 2017, the DNPW issued a total of 1,177 leopards on quota of which 687 were utilized (58% of the annual quota) (CITES 2018a:23). During this period, the highest number of leopards issued on quota was 126 individuals in 2011 and the lowest was 37 individuals in 2015 (CITES 2018a:23). Before the hunting ban was implemented in 2013 – 2014, the average annual leopard quota was 120 individuals per year (CITES 2018a:23). Since the ban was lifted, the annual leopard quotas have increased from 37 individuals per year in 2015 to 105 individuals per year in 2017 (CITES 2018a:23). The annual leopard quota for 2018 was set at 102 individuals (CITES 2018a:20-21).

16. Since 2006, according to UNEP-WCMC (2020), reported gross exports have averaged approximately 70 trophies and 9 skins annually.

17. Given that leopard export quotas are developed using various methods, the Parties at CoP17 adopted four interrelated decision on Quotas for leopard hunting trophies (see AC29 Doc. 16; CITES 2017a,b). According to Decision 17.114:

> Parties, which have quotas, established under Resolution Conf. 10.14 (Rev. CoP16) on *Quotas for leopard hunting trophies and skins for personal use* are requested to review these quotas, and consider whether these quotas are still set at levels which are non-detrimental to the survival of the species in the wild, and to share the outcomes of the review and the basis for the determination that the quota is not detrimental, with the Animals Committee at its 30th meeting (July 2018).

18. The results of these reviews were considered by the Animals Committee at AC30 (CITES 2018b). During this time, a working group reviewed information submitted by leopard range states and made recommendations concerning quotas for 12 African countries to the Animals Committee. For Zambia:

"*The WC recommends to the Animals Committee to inform the Standing Committee that it considers that the quotas for Leopards for Zambia, as mentioned in Resolution Conf. 10.14 (Rev. CoP16), are set at levels which are non-detrimental to the survival of the species in the wild*."

The Animals Committee adopted this recommendation (CITES 2018c:6).

19. At the 70th meeting of the Standing Committee (SC70; Sochi, October 2018), the Chair of the Animals Committee submitted a document SC70 Doc. 55 on *Quotas for leopard hunting trophies (Panthera pardus): Report of the Animals Committee*. In the document, the Animals Committee informed the Standing Committee of the above recommendation. The Standing Committee noted the evaluation of the Animals Committee concerning the quotas for Zambia in Resolution Conf. 10.14 (Rev. CoP16) and invited the Secretariat to propose to the Conference of the Parties draft amendments to Resolution Conf. 9.21 (Rev. CoP13) on *Interpretation and application of quotas for species included in Appendix I* concerning approaches to review quotas for Appendix-I species, taking into consideration the recommendations of the Animals Committee in paragraph 5 f) of document SC70 Doc. 55 and opportunities to provide assistance to range States (CITES 2018d). These results were taken up by the 18th meeting of the Conference of the Parties in Geneva, Switzerland, August 17 – 28, 2019, under document CoP18 Doc. 46 on *Quotas for Leopard Hunting Trophies*.

20. Based on the discussions regarding Doc. 46 at CoP18, the Chair of Committee I established a working group to consider the revision of Resolution Conf. 9.21 (Rev. CoP11) in Annex 2 and draft decisions 18.AA to 18.HH in Annex 3 to document CoP18 Doc. 46. The working group, chaired by the United Kingdom of Great Britain and Northern Ireland, also included Botswana, the Central African Republic, Chad, Ethiopia, the European Union, Finland, Germany, Israel, Liberia, Malawi, Namibia, Senegal, South Africa, Spain, Uganda, the United States of America, and Zimbabwe; United Nations Environment Programme (UNEP); International Council for Game and Wildlife Conservation; International Union for Conservation of Nature (IUCN); and Cheetah Conservation Fund, Conservation Force, Dallas Safari Club, European Federation of Associations for Hunting and Conservation, Humane Society International, International Professional Hunters Association, IWMC-World Conservation Trust, Safari Club International, San Diego Zoo Global, World Wildlife Fund and Zoological Society of London (CITES 2019a). The working group prepared document CoP18 Com. I. 10 on the basis of document CoP18 Doc. 46 after discussion in the second session of Committee I (CITES 2019b). At the conclusion of CoP18 (i.e. plenary), the amendments to Resolution Conf. 9.21 (Rev. CoP17) on *Interpretation and application of quotas for species included in Appendix I* contained in the in-session document CoP18 Com. I. 10 had been accepted in Committee I and were adopted. The eight draft decisions in Annex 3 to document CoP18 Doc. 46 had also been accepted in Committee I and were adopted. Decisions 17.114 to 17.117 were deleted (CITES 2019c).

21. Therefore, based on the above information, we find that the current harvest levels are sustainable. As such, we advise that this import is likely to be for purposes that are not detrimental to the survival of the species.

* * * * *

Braczkowski, A.R., G.A. Balme, A. Dickman, D.W. Macdonald, J. Fattebert, T. Dickerson, P. Johnson, and L. Hunter. 2015. Who bites the bullet first? The susceptibility of Leopards *Panthera pardus* to trophy hunting. PloS one 10, no. 4 (2015): e0123100. Available online at: http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0123100; accessed on: August 1, 2018.

CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora). 2013. Resolution Conf. 10.14 (Rev. CoP16) on *Quotas for leopard hunting trophies and skins for personal use*. Available online at: https://cites.org/sites/default/files/document/E-Res-10-14-R16.pdf; accessed on: August 1, 2018.

CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora). 2017a. Summary Record. AC29 summary record. Available online at: https://cites.org/sites/default/files/eng/com/ac/29/sum/E-AC29-SR.pdf; accessed on: August 2, 2018.

CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora). 2017b. CITES Secretary-General's statement for the Twelfth meeting of the Conference of the Parties to the Convention on Migratory Species, Opening Plenary - Manila, Philippines. Available online at: https://cites.org/eng/news/sg/CITES_SG_opening_speech_Twelfth_CoP_Convention_on_Migratory_Species_23102017; accessed on: August 2, 2018.

CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora). 2018a. Export Quota Review – Zambia. AC30 Doc. 15 Annex 5. 63 pp. Available online at: https://cites.org/sites/default/files/eng/com/ac/30/E-AC30-15-A5.pdf; accessed on: December 6, 2018.

CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora). 2018b. Quotas for leopard hunting trophies. AC30 Com. 10. 3 pp. Available online at: https://cites.org/sites/default/files/eng/com/AC/30/com/E-AC30-Com-10.pdf; accessed on: August 3, 2018.

CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora). 2018c. Executive Summary. AC30 Sum. 3. 6 pp. Available online at: https://cites.org/sites/default/files/eng/com/AC/30/sum/E-AC30-ExSum-03.pdf; accessed on: August 3, 2018.

CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora). 2018d. Executive Summary. SC70 Sum. 10 (Rev. 1). 3 pp. Available online at: https://cites.org/sites/default/files/eng/com/sc/70/exsum/E-SC70-Sum-10-R1.pdf; accessed on: November 1, 2018.

CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora). 2019a. Summary record of the second session for Committee I (CoP18 Com. I. Rec. 2. Available online at: https://cites.org/sites/default/files/eng/cop/18/Com_I/SR/E-CoP18-Com-I-Rec-02_.pdf; accessed on September 6, 2019.

CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora). 2019b. In-session document from Committee I on Quotas for leopard hunting trophies (Document 46) (CoP18 Com. I. 10). Available online at: https://cites.org/sites/default/files/eng/cop/18/Com_I/E-CoP18-Com-I-10.pdf; accessed on November 14, 2019.

CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora). 2019c. Summary record of the third plenary session (CoP18 Plen. Rec. 3 (Rev. 1)). Available online at: https://cites.org/sites/default/files/eng/cop/18/Plen/SR/E-CoP18-Plen-Rec-03-R1.pdf; accessed on November 14, 2019.

CMS (Convention on Migratory Species). 2017a. Joint CMS-CITES African Carnivores Initiative. UNEP/CMS/COP12/Doc.24.3.1.1; 22 May 2017. Available online at: http://www.cms.int/sites/default/files/document/cms_cop12_doc.24.3.1.1_african-carnivores-initiative_e.pdf; accessed on: August 1, 2018.

CMS (Convention on Migratory Species). 2017b. Decisions of the Conference of the Parties to CMS in Effect After its 12th Meeting. 25 pp. Available online at: http://www.cms.int/sites/default/files/document/cms_cop12_decisions_e_0.pdf; accessed on: August 1, 2018. [See: Decisions 12.55–12.60; p. 15]

Hanssen, L., P. Funston, B. Alfred, and S. Alfred. 2017. Large Carnivore Survey; Bwabwata National Park, Namibia, August 2017. Kwando Carnivore Project, Kyaramacan Trust, Panthera, and Namibia Ministry of Environment and Tourism. 9 pp. Available online at: http://www.the-eis.com/data/literature/Report_Bwabwata%20Large%20Carnivore%20Survey_2017.pdf; accessed on: August 1, 2018.

Hunt, A. 2011. "*Panthera pardus*" (On-line), Animal Diversity Web. Accessed August 1, 2018, at http://animaldiversity.org/accounts/Panthera_pardus/

IUCN/SSC Cat Specialist Group. 2017. Regional Assessment for the leopard in selected countries of Africa. Muri bei Bern, Switzerland. 207 pp.

Jacobson, A.P., et al. 2016. Leopard (*Panthera pardus*) status, distribution, and the research efforts across its range. PeerJ, 4, e1974. Available online at: https://peerj.com/articles/1974/; accessed on: August 1, 2018.

Service (U.S. Fish and Wildlife Service). 1970. Part 17: Conservation of Endangered Species and Other Fish or Wildlife. Federal Register 35(106):8491–8498. [June 2, 1970]

Available online at: https://ecos.fws.gov/docs/federal_register/fr21.pdf; accessed on: August 1, 2018.

Service (U.S. Fish and Wildlife Service). 1972. Part 17: Conservation of Endangered Species and Other Fish or Wildlife: List of Endangered Foreign Fish and Wildlife. Federal Register 37(62):6476. [March 30, 1972] Available online at: https://ecos.fws.gov/docs/federal_register/fr29.pdf; accessed on: August 1, 2018.

Service (U.S. Fish and Wildlife Service). 1982. Endangered and Threatened Wildlife and Plants: Threatened Status for the Leopard in Southern Africa. Federal Register 47(19):4204–4211. [January 28, 1982] Available online at: https://ecos.fws.gov/docs/federal_register/fr573.pdf; accessed on: August 1, 2018.

Service (U.S. Fish and Wildlife Service). 2016. Endangered and Threatened Wildlife and Plants: Notifice of petition findings and initiation of status reviews. Federal Register 81(230):86315–86318. [November 30, 2016] Available online at: https://www.gpo.gov/fdsys/pkg/FR-2016-11-30/pdf/2016-28513.pdf; accessed on: August 1, 2018.

Service (U.S. Fish and Wildlife Service). 2017. Endangered and Threatened Wildlife and Plants: Notification of petition findings and initiation of status reviews. Federal Register 82(243):60362–60366. [December 20, 2017] Available online at: https://www.gpo.gov/fdsys/pkg/FR-2016-11-30/pdf/2016-28513.pdf; accessed on: August 1, 2018.

Service (U.S. Fish and Wildlife Service). 2018. ECOS: *Panthera pardus*. Available online at: https://ecos.fws.gov/ecp0/profile/speciesProfile.action?spcode=A01J; accessed on: August 1, 2018.

Stein, A.B. et al. 2016. *Panthera pardus*. The IUCN Red List of Threatened Species 2016: e.T15954A102421779. http://dx.doi.org/10.2305/IUCN.UK.2016-1.RLTS.T15954A50659089.en; accessed on: August 1, 2018.

UNEP. 2018. CITES Species Database: *Panthera pardus*. Available online at: http://www.cites.org/eng/resources/species.html. Downloaded on: August 1, 2018.

UNEP-WCMC. 2020. CITES Gross Export Trade Report: *Panthera pardus*. Available online at: https://trade.cites.org/en/cites_trade/download/view_results?filters%5Btime_range_start%5D=2006&filters%5Btime_range_end%5D=2019&filters%5Bexporters_ids%5D%5B%5D=201&filters%5Bimporters_ids%5D%5B%5D=all_imp&filters%5Bsources_ids%5D%5B%5D=all_sou&filters%5Bpurposes_ids%5D%5B%5D=all_pur&filters%5Bterms_ids%5D%5B%5D=84&filters%5Bterms_ids%5D%5B%5D=97&filters%5Btaxon_concepts_ids%5D%5B%5D=8619&filters%5Breset%5D=&filters%5Bselection_taxon%5D=taxonomic_cascade&web_disabled=&filters[report_type]=gross_exports. Downloaded on: February 12, 2020.

* * * * *

DSA BIOLOGIST:

MONICA HORTON Digitally signed by MONICA HORTON Date: 2020.09.30 09:14:51 -04'00'

Monica A. Horton
Biologist (CITES Specialist)
Division of Scientific Authority

DSA CONCUR:

Digitally signed by ELEANORA BABIJ
Date: 2020.09.30 09:19:23 -04'00'

Eleanora Babij, Ph.D.
Chief, Branch of Consultation and Monitoring
Division of Scientific Authority