

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: 74667D

Date Received by DSA: May 19, 2020

DMA Contact: Stephanie D. Whitley

Applicant: Dennis R. Greensage
Tomball, Texas

Specimens and Species: 1.0 Leopard (*Panthera pardus*)

Wild (Mozambique)
Re-exported from South Africa

One (1) personal sport-hunted trophies
(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.* 2020). 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 km² (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.* 2020). 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.* 2020). 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.* 2020).

In 1975, the leopard as *Panthera pardus* was included in CITES Appendix I (UNEP 2020). 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 status review (Service 2016, 2017, 2020).

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.* 2020). 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.* 2020).

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).

Leopards inhabit most of Mozambique (IUCN/SSC Cat Specialist Group 2017:25; CITES 2018c:5–7), except for the northeast, central, and southeast coastal areas (Jacobson *et al.* 2016, Supplement to Document 1, page 84). The country has an extensive network of protected areas

that encompass about 16.3% of the country (IUCN/SSC Cat Specialist Group 2017:142) although it is estimated that 14.6% of protected areas cover extant leopard range (Jacobson *et al.* 2016). Range wide, the main conservation threats to leopards are habitat loss and fragmentation, reduced prey base, conflict with livestock and game farming, and trophy hunting if poorly managed (Stein *et al.* 2020). In Mozambique, however, the key threats to leopard conservation are direct persecution in retaliation of livestock losses, indirect killings through snares set for bushmeat, and to a lesser extent illegal killings for the skin trade (CITES 2018c:8). These threats are ongoing (Stein *et al.* 2020).

BASIS FOR ADVICE

A. Applicant Information:

1. The applicant (Dennis R. Greensage, Tomball, Texas) requests authorization to import one leopard (*Panthera pardus pardus*) personal, sport-hunted trophy from Mozambique.
2. The purpose of the proposed import is personal use. The leopard was taken from the wild at/near: Coutada 10, Safala Province, Mozambique, with assistance by Professional Hunter Antonn Smit and Outfitter Marromeu Safaris, on August 15, 2019. The hunt was documented by Mozambique Hunting License 334/2019 and the associated outfitter leopard info sheet (copies submitted). The trophy currently is located in South Africa.

B. Mozambique Information:

3. Leopards in Mozambique are managed in accordance with the guiding principles adopted at the First Southern African Large Carnivore Management Meeting held in South African in February 2018 (CITES 2018c:5). These principles include: sustainable use, adaptive management, monitoring, robust science, and sport-hunting. Monitoring is a critical component of effective adaptive management and provides valuable information to improve harvest levels (CITES 2018c:10). Furthermore, leopards are managed under a sustainable use program that includes trophy hunting, regulations on hunting, and CITES implementation (CITES 2018c:12).
4. Hunting in Mozambique is managed and regulated at the national level (CITES 2018c:10). Until recently, the primary legislative tool in Mozambique was Conservation Law No. 16 of 2014 (CITES 2018c:12–13). That measure has been amended, however, through the adoption of several new laws, decrees, and regulations: (a) Law on the Protection, Conservation and Sustainable Use of Biological Diversity (aka Law No. 5 of 11 May 2017), in part, increases penalties for wildlife violations, extends the applicability of wildlife law enforcement to the entire territory of Mozambique, makes it a crime to harvest wildlife without a license, and allows certain representatives of the government to participate as technical advisors for public prosecutions; (b) Decree 89 of 29 December 2017 which provides for the creation of Community Conservation Areas and increases benefits to rural communities through the sustainable use of natural resources. (c) Decree of the Council of Ministers No. 34 of 2016 which is the updated CITES regulation and; and (d) Decree 82 of 29 December 2017 (aka

Hunting Regulations) which contains several new provisions that regulate the take of wildlife.

5. Under the Hunting Regulations, leopard hunting is restricted a specific season (April-November), limited to a specific quota, applies to a specific concession, and is limited to male leopards. These regulations also provide for a minimum leopard trophy size of 1.20 m and prohibit the hunting of leopards in Multiple Utilization Areas and Game Farms less than 10,000 ha in size, which further prohibits the harvest of leopards that were bred in captivity. In addition, these regulations allow the relevant ministry to enact a Ministerial Decree that calls for age and size mechanisms, as well as standards for wildlife species that are hunted. The implementation of these regulations ultimately will lead to the enactment of specific leopard hunting guidelines and the adoption shortly of specific trophy inspection and control procedures, as well as a compulsory Leopard Hunt Return Form (CITES 2018c:13).

6. Subject to a binding contract, all hunting concessions are awarded to private safari operators (CITES 2018c:10). These contracts include several conditions, including: submission of a management plan, completion of an Annual Activity Report, monitoring of poaching and other illegal activities, inventorying wildlife populations on a regular basis, and agreed shared benefits arrangements with local communities. The right to hunt is only recognized by means of the contract between the Government of Mozambique and the concession operator (CITES 2018c:11). Contracts usually are awarded for 5-year periods and are renewable for 10 years if all obligations are met. To promote ethical hunting and the conservation of nature on concessions, in 2010 the Association of Mozambique Hunting Safari Operators (AMOS) was formed. AMOS advocates for the sustainable use of natural resources as an important tool for social and economic benefits and is so doing as part of the adaptive management framework.

7. Since 2014, the management of natural resources falls under the purview of the Ministry of Land, Environment and Rural Development (agency acronym in Portuguese: MITADER) and National Administration of Protected Areas (agency acronym in Portuguese: ANAC). ANAC is solely responsible for allocating hunting quotas and implementing hunting legislation. The quantities and species subject to the quota depend on many factors, including the population sizes and trends of the species at the hunting area, as well as the impact of hunting on trophy quality (CITES 2018c:14). There are several categories of hunting areas for foreign hunters, including: Coutadas (Hunting Reserves), Hunting Blocks, Community Programs, and Game Farms. No leopard quotas are allocated to areas used by local national hunters.

8. Quotas are set in a participatory way by ANAC representatives, provincial authorities, and safari operators (CITES 2018c:14). Following the model described in the Quota Setting Manual (WWF 1997), this process is informed by the Annual Activity Reports, as well as the results of local surveys and studies. Designed to be used by local communities (e.g., drawings, simple text, examples), the manual outlines the importance of quota setting and provides the biological background to quota setting. Based on this process, for the period 2011–2017 Mozambique established a quota of 120 leopards, a value equivalent to 1.8% of the total leopard population in that country based on habitat availability and population densities (CITES 2018c:14-15).

9. Leopard hunts and harvests are monitored in two ways (CITES 2018c:15–16). The first system, implemented by ANAC, is the verification of the several mandatory plans and reports

that the safari operators are required to submit. These plans and reports contain important information, for example, about quota and harvest monitoring, wildlife monitoring, and law enforcement activities. The second system, implemented by MITADER, is the monitoring of leopard harvests through a review of trophy ownership certificates, as well as periodic visits to the hunting areas. These two systems provide monitoring at the national and provincial levels.

10. ANAC is currently developing two databases in an effort to improve hunting administration (CITES 2018c:15–16). The objective of the first database is to compile and monitor information about sport hunting in sport hunting designated areas, such as coutadas, hunting blocks, and game farms. This database will use quantitative information that is contained in the Annual Hunting Report. The objective of the second database is to compile wildlife monitoring information about selected species of wildlife. (CITES 2018c:16). These two databases will be integrated and will be designed – in accordance with the adaptive management framework – to provide useful information to ANAC and MITADER representatives for leopard management and the quota setting process.

11. According to Mozambique (CITES 2018c:20):

Upon considering these factors, ANAC and the Government of Mozambique concludes that the low level of off-take generated by safari hunting is not detrimental to the survival of leopard in Mozambique and the activities and amount of revenues generated by this low level of off-take are of crucial importance for the conservation of the species also because of the benefits it provides to rural communities. Safari hunting provides a net benefit to the species, it does not pose a threat to the species, and it is not a detriment to the survival of the species.

Furthermore, the Government of Mozambique concludes that the quota established by CITES by Resolution Conf. 10.14 (Rev. CoP16) is set at levels which are non-detrimental to the survival of the species in the wild. The leopard, its prey base and habitat is believed to be improving because of the reestablishment of safari hunting since the war. The quota is conservative and too low to be of biological concern. Moreover, it is still underutilized while the potential of greater use of the underutilized quota promises more budget revenue, community incentives and restoration of prey and habitat.

C. CITES Export Quota Program

12. Within the context of CITES, Mozambique initially had an approved export quota of 60 individuals (1997–2007; CITES 2018a,b). That quota was modified in 2008 and increased to the current total of 120 leopards per year (2008–2018; UNEP 2018). (Mozambique did not have an export quota for 2013–2014.) Although this quota was increased, actual hunting trophy exports have been less. Since 2008, according to UNEP-WCMC (2018), reported gross exports have averaged 46 trophies annually and 28 skins annually (total = 74 leopards; about 62% of the annual quota).

13. Given that leopard export quotas are developed using various methods, the Parties at CoP17 adopted four interrelated decisions 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).

14. The results of these reviews were considered by the Animals Committee at AC30 (CITES 2018d). 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 Mozambique:

“The WC recommends to the Animals Committee to inform the Standing Committee that it considers that the quotas for Leopards for Mozambique, 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.”

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

16. 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 Mozambique 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 2018f). 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*.

17. 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).

18. 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.

* * * * *

Literature Cited

- Booth, V.R. & Chardonnet, P., eds. 2015. Guidelines for improving the administration of sustainable hunting in sub-Saharan Africa. Harare, FAO Sub-regional Office for Southern Africa. 129 pp. Available online at: <http://www.fao.org/3/a-bo583e.pdf>; accessed on May 20, 2020.
- 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: May 20, 2020.
- Caro, TM, Young, CR, Cauldwell, AE, and Brown, DDE. 2009. Animal breeding systems and big game hunting: Models and application. Biol. Conserv. 142(4):909–929. Available online at: http://www.cryoung.org/www/pdfs/Caro_BiolCon_2009.pdf; accessed on: May 20, 2020. [No longer available.]
- CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora). 2013. 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_0.pdf; accessed on: May 20, 2020.
- 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: May 20, 2020.

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: May 20, 2020.

CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora). 2018a. CITES National Export Quotas: *Panthera pardus*. Available online at: https://cites.org/eng/resources/quotas/export_quotas?field_party_quotas_tid=Mozambique&field_full_name_tid=Panthera+pardus&field_export_quotas_year_value%5Bvalue%5D%5Byear%5D=2017&items_per_page=50&=Apply; accessed on: May 20, 2020.

CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora). 2018b. Quotas for leopard hunting trophies. AC29 Doc. 16. Available online at: <https://cites.org/sites/default/files/eng/com/ac/29/E-AC29-16.pdf>; accessed on: May 20, 2020.

CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora). 2018c. Export Quota Review – (Mozambique). AC30 Doc. 15 Annex 1. 27 pp. Available online at: <https://cites.org/sites/default/files/eng/com/ac/30/E-AC30-15-A1.pdf>; accessed on: May 20, 2020.

CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora). 2018d. 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: May 20, 2020.

CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora). 2018e. 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: May 20, 2020.

CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora). 2018f. 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: May 20, 2020.

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 May 20, 2020.

- 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 May 20, 2020.
- 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 May 20, 2020.
- 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: May 20, 2020.
- 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: May 20, 2020. [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://the-eis.com/elibrary/sites/default/files/downloads/literature/Report_Bwabwata%20Large%20Carnivore%20Survey_2017.pdf; accessed on: May 20, 2020.
- Hunt, A. 2011. "*Panthera pardus*" (On-line), Animal Diversity Web. Accessed May 20, 2020, 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: May 20, 2020.
- Jorge A. 2012. The sustainability of leopard *Panthera pardus* sport hunting in Niassa National Reserve, Mozambique. (Master's thesis) University of KwaZulu-Natal, South Africa, March 2012. 84 pp. Available online at: https://researchspace.ukzn.ac.za/xmlui/bitstream/handle/10413/9732/Jorge_Agostinho_A-2012.pdf?sequence=1&isAllowed=y; accessed on: May 20, 2020.
- Nowell, K., & Jackson, P. (Eds.). 1996. Wild cats: status survey and conservation action plan (Vol. 382). Gland: IUCN. 382 pp. Available online at:

- <https://portals.iucn.org/library/efiles/documents/1996-008.pdf>; accessed on: May 20, 2020.
- 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: May 20, 2020.
- 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: May 20, 2020.
- 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: May 20, 2020.
- Service (U.S. Fish and Wildlife Service). 2016. Endangered and Threatened Wildlife and Plants: Notice 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: May 20, 2020.
- 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: May 20, 2020.
- Service (U.S. Fish and Wildlife Service). 2020. ECOS: *Panthera pardus*. Available online at: <https://ecos.fws.gov/ecp0/profile/speciesProfile.action?sPCODE=A01J>; accessed on: May 20, 2020.
- 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: May 20, 2020.
- Stein, A.B., Athreya, V., Gerngross, P., Balme, G., Henschel, P., Karanth, U., Miquelle, D., Rostro-Garcia, S., Kamler, J.F., Laguardia, A., Khorozyan, I. & Ghoddousi, A. 2020. *Panthera pardus* (amended version of 2019 assessment). The IUCN Red List of Threatened Species 2020: e.T15954A163991139. <https://dx.doi.org/10.2305/IUCN.UK.2020-1.RLTS.T15954A163991139.en>. Downloaded on 20 May 2020.

UNEP. 2020. CITES Species Database: *Panthera pardus*. Available online at: https://speciesplus.net/#/taxon_concepts/8619/legal; Downloaded on: May 20, 2020.

UNEP-WCMC. 2018. CITES Gross Export Trade Report: *Panthera pardus*. Available online at: https://trade.cites.org/en/cites_trade/download?filters%5Btime_range_start%5D=2009&filters%5Btime_range_end%5D=2018&filters%5Bexporters_ids%5D%5B%5D=118&filters%5Bimporters_ids%5D%5B%5D=all_imp&filters%5Bsources_ids%5D%5B%5D=112&filters%5Bpurposes_ids%5D%5B%5D=116&filters%5Bpurposes_ids%5D%5B%5D=120&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=; Downloaded on: May 20, 2020.

WWF-SARPO, Zimbabwe Trust and Safari Club International. 1997. Quota Setting Manual. Wildlife Management Series. Harare, Zimbabwe: WWF Southern Africa Regional Programme Office (SARPO). 41 pp. Download from: www.policypowertools.org/related/campfire.html; see also: http://www.policypowertools.org/related/docs/quota_setting.pdf; accessed on: August 6, 2018.

* * * * *

DSA BIOLOGIST:

DSA CONCUR:

Jeffrey P. Jorgenson, Ph.D.
Biologist
Division of Scientific Authority

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