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MIGRATORY  
SPECIES**

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13<sup>th</sup> MEETING OF THE CONFERENCE OF THE PARTIES  
Gandhinagar, India, 17 - 22 February 2020  
Agenda Item 26.3.1

**AFRICAN CARNIVORES INITIATIVE**

*(Prepared by the Secretariat)*

Summary:

This document reports on progress to implement [Decisions 12.55 to 12.60](#) *Joint CMS-CITES African Carnivores Initiative*, as well as the associated [Decisions 12.61 to 12.66](#) on *Conservation and Management of Cheetah (Acinonyx jubatus) and African Wild Dog (Lycaon pictus)* and [Decisions 12.67 – 12.70](#) *Conservation and Management of the African Lion (Panthera leo)*.

Based on the progress made during the intersessional period, the Secretariat proposes a draft Resolution and draft Decisions, as contained in Annex 1 and 2 of this document for adoption by the Meeting as well as the taking note of the *Guidelines on the Conservation of Lions in Africa* and a *Roadmap for the Conservation of Leopards in Africa* (Annexes 3 and 4 respectively).

A revision of the document was issued to correct the numbering of the draft Decisions in Annex 2

## JOINT CMS-CITES AFRICAN CARNIVORES INITIATIVE

### Background

1. The 12<sup>th</sup> meeting of the CMS Conference of the Parties (COP12, Manila, 2017) adopted [Decisions 12.55 to 12.60](#) *Joint CMS-CITES African Carnivores Initiative* as follows:

#### **12.55 Directed to Parties**

*Parties are urged to recognize the importance of the African Carnivores Initiative in implementing CMS Resolutions and Decisions relating to the African Lion (Panthera leo), the Cheetah (Acinonyx jubatus), the Leopard (Panthera pardus) and the African Wild Dog (Lycaon pictus) and seeking synergies, inter alia through the joint CMS-CITES Work Programme with work under CITES to implement complementary CITES Resolutions and Decision.*

#### **12.56 Directed to Others**

*Range States are urged to work through the African Carnivores Initiative to implement CMS Resolutions and Decisions relating to the African Lion (Panthera leo), the Cheetah (Acinonyx jubatus), the Leopard (Panthera pardus) and the African Wild Dog (Lycaon pictus), as a way to increase efficiency and effectiveness of their actions.*

#### **12.57 Directed to Parties, IGOs & NGOs**

*Parties, intergovernmental and non-governmental organizations are encouraged to provide financial and technical support to the Range State Parties of the African Lion (Panthera leo), the Cheetah (Acinonyx jubatus), the Leopard (Panthera pardus) and the African Wild Dog (Lycaon pictus) and to the Secretariat for their work through the African Carnivores Initiative in implementing the relevant CMS Resolutions and Decisions.*

#### **12.58 Directed to the Standing Committee**

*The Standing Committee shall consider the report of the Secretariat and make any recommendations it considers appropriate to the Conference of Parties at its 13<sup>th</sup> meeting.*

#### **12.59 Directed to the Scientific Council**

*The Scientific Council should consider the report of the Secretariat and determine at the meetings of its 3<sup>rd</sup> and 4<sup>th</sup> Sessional Committee whether further specific actions are required in relation to the conservation of the African Lion (Panthera leo), the Cheetah (Acinonyx jubatus), the Leopard (Panthera pardus) and the African Wild Dog (Lycaon pictus) through the African Carnivores Initiative and make recommendations to the Standing Committee at its 48<sup>th</sup> and 49<sup>th</sup> meetings, if appropriate.*

#### **12.60 Directed to the Secretariat**

*The Secretariat shall:*

- a) *Establish the African Carnivores Initiative, and work with the CITES Secretariat to jointly support Parties to CMS and CITES, in implementing conservation measures in CMS Resolutions and Decisions pertaining to African Carnivores;*
- b) *Support, subject to the availability of external resources, Range State Parties of the African Lion (Panthera leo), the Cheetah (Acinonyx jubatus), the Leopard (Panthera pardus) and the African Wild Dog (Lycaon pictus) in their work through the African Carnivores Initiative in implementing relevant CMS Resolutions and Decisions; and*
- c) *Report to the Sessional Committee of the Scientific Council at its 3<sup>rd</sup> and 4<sup>th</sup> sessions and the Standing Committee at its 48<sup>th</sup> and 49<sup>th</sup> meetings on the progress in implementing these Decisions.*

2. The Initiative seeks to bring coherence and efficiency to the implementation of resolutions and decisions of CMS and CITES relating to four African carnivore species, i.e. African Lion (*Panthera leo*), Leopard (*Panthera pardus*), Cheetah (*Acinonyx jubatus*), and African Wild Dog (*Lycaon pictus*). The Initiative will be carried out in close cooperation with the International Union for Conservation of Nature (IUCN) and its specialist groups (for more background information on the mandate of the Secretariats and the objective of the Initiative: see document [UNEP/CMS/COP12/Doc.24.3.1.1](#)).
3. Regarding current CMS and CITES Decisions and Resolutions that are most relevant to the Joint CITES-CMS African Carnivores Initiative, the following are in effect:

| Convention | Resolutions   | Decisions  |
|------------|---|--|
| CITES      | <a href="#">Resolution Conf. 10.14 (Rev. CoP16)</a> on <i>Quotas for Leopard hunting trophies and skins for personal use</i><br><br><a href="#">Resolution Conf. 17.9</a> on <i>Trade in hunting trophies of species listed in Appendix I or II</i> | CoP18 Leopard decisions<br><br>CoP18 Lions decisions<br><br>CoP18 Cheetah decisions<br><br>CoP18 decisions on the ACI  |
| CMS        |   | <a href="#">Decisions 12.55 to 12.60</a> <i>Joint CMS-CITES African Carnivores Initiative</i><br><br><a href="#">Decisions 12.61 to 12.66</a> <i>Conservation and Management of Cheetah (Acinonyx jubatus) and African Wild Dog (Lycaon pictus)</i><br><br><a href="#">Decisions 12.67 – 12.70</a> <i>Conservation and Management of the African Lion (Panthera leo)</i> |

This document reports on progress in implementing all CMS Decisions covered by the Initiative.

Activities to implement Decisions 12:55 – 12.60 *Joint CMS-CITES African Carnivores Initiative*

*Implementation of Decision 12.60 (a): Establishment of the ACI*

4. The CMS Secretariat established the Initiative through the organization of a Range State meeting in cooperation with the CITES Secretariat. The Range States of the four species covered by the Joint CITES-CMS African Carnivores Initiative met for the first time from 5 to 8 November 2018 in Bonn, Germany (ACI1). The meeting aimed to define the way forward for the Initiative, including its future structure and priorities, and how it could contribute to implementing the resolutions and decisions adopted by both Conventions that are relevant to the four African carnivore species.
5. Thirty-one<sup>1</sup> out of forty-seven Range States of the four African carnivore species, represented by CITES Management Authorities, CMS National Focal Points, or both, participated in the meeting. Members of the IUCN/ Species Survival Commission (SSC) Cat Specialist Group, IUCN/SSC Canid Specialist Group, and IUCN Save Our Species (SOS) initiative also attended the meeting and shared their expertise. The meeting was made possible through the funding from the Governments of Belgium (Federal and Flemish Governments), Germany and Switzerland. The documents concerning the meeting are available online on the [meeting website](#).

<sup>1</sup> Angola, Benin, Botswana, Burkina Faso, Cameroon, Central African Republic, Chad, Côte d'Ivoire, Egypt, Equatorial Guinea, Eswatini, Ethiopia, Gabon, Ghana, Guinea, Kenya, Malawi, Mali, Mauritania, Mozambique, Namibia, Niger, Senegal, Somalia, South Africa, Togo, Tunisia, Uganda, United Republic of Tanzania, Zambia and Zimbabwe

6. Through the Communiqué ([CMS-CITES/ACI1/Outcomes.1](#)) and the outcome document ([CMS-CITES/ACI1/Outcomes.2](#)), Range States welcomed the establishment of the Joint CITES-CMS African Carnivores Initiative. In addition, the outcome documents included the following elements: (i) recommendations on the future of the Joint CITES-CMS African Carnivores Initiative; (ii) the outcomes of the discussions concerning African Lion, with decisions proposed for adoption at the 18<sup>th</sup> meeting of the CITES Conference of the Parties (COP18, Geneva, 2019) and the 13<sup>th</sup> meeting of the CMS Conference of the Parties (CMS COP13, Gandhinagar, 2020); (iii) the outcomes on Leopard, with decisions proposed for adoption at CITES COP18; and (iv) the outcomes on Cheetah and African Wild Dog, with suggested changes to CMS Decisions 12.61 to 12.66 *Conservation and Management of Cheetah* (*Acinonyx jubatus*) and *African Wild Dog* (*Lycaon pictus*).
7. Regarding the future directions of the ACI, Range States made the following recommendations ([CMS-CITES/ACI/Outcome.2 Annex 1](#)):
- a) *Addressing the threats to African carnivores requires the long-term commitment of range States and the international community. Therefore, the establishment of a Joint CITES-CMS African Carnivores Initiative is a timely undertaking.*
  - b) *To ensure long-term engagement by CITES and CMS, a Programme of Work should be jointly developed by the two Secretariats, allocating responsibilities to Parties to CITES and CMS in accordance with the mandates of the two Conventions. This Programme of Work should build on the current arrangement, by which the Secretariats implement CITES and CMS Resolutions and Decisions in the framework of the ACI by setting priorities and specifying activities.*
  - c) *The Programme of Work should include indicators that enable evaluating the success of implemented activities.*
  - d) *The Programme of Work should identify potential partners for the implementation of activities.*
  - e) *The Joint CITES-CMS African Carnivores Initiative should have the following governance structure, pending the availability of extrabudgetary resources:*
    - i. *Triennial Range State meetings or, if funding allows, annual Range State meetings to develop policies for the conservation of the four carnivores; review the implementation of, update or renew the Joint Programme of Work (and CITES and CMS Resolutions and Decisions pertaining to the four species); and facilitate exchange of data, information and best practices.*
    - ii. *A network of National Coordinators should be established. Parties should decide on whether it would be preferred to appoint one joint national CITES-CMS coordinator, or two separate ones. The National Coordinators should coordinate and monitor the implementation of the Joint Programme of Work at the national level.*
    - iii. *A network of Regional Coordinators should be established in cooperation with IUCN. Synergies could be sought with existing networks, such as the IUCN Cheetah and African Wild Dog Regional Coordinators network to assist range States in implementing the Joint Programme of Work.*
    - iv. *A Joint CITES-CMS Programme Officer position should be established at one of the Conventions' Secretariats to oversee the coordination of the ACI and to foster further synergies between the two Conventions.*
  - f) *A Decision should be prepared by the CITES and CMS Secretariats to be submitted to CITES COP18 and CMS COP13 instructing the Secretariats to develop a Joint Programme of Work for the ACI.*
  - g) *In setting up the ACI, the Secretariats should look at other existing initiatives for lessons learned.*

- h) *A Resolution, setting out the fundamental principles and objectives of the ACI should be prepared by the Secretariats for adoption by CMS COP13 and CITES COP19.*
- i) *The Secretariats should jointly explore possible funding mechanisms for the ACI, including the use of the IUCN Save Our Species Conservation Action Programme (SOS) Initiative and bring forward respective results.*
8. Based on the recommendations of ACI1, several recommendations involving CITES were submitted to CITES COP18 by the CITES Standing Committee and the Secretariat. These related to the Initiative itself, as well as to individual species covered by the Initiative (see [CITES CoP18 Doc. 46 on Quotas for Leopard Hunting Trophies](#), [CITES CoP18 Doc. 96 on the African Carnivores Initiative](#), [CITES CoP18 Doc. 60 on Illegal Trade In Cheetahs \(Acinonyx jubatus\)](#), and [CITES CoP18 Doc. 76.1 \(Rev. 1\) on African Lion \(Panthera leo\)](#)). Following discussions of these recommendations at CITES COP18, the Conference of the Parties adopted the decisions and amendments to resolutions as indicated in paragraphs 39-40.
9. The Decisions prepared at ACI1 that relate to species listed on the CMS Appendices and involve CMS have been edited by the Secretariat and are set out in Annex 2 of this document, for consideration by the COP.

*Implementation of Decision 12.60 (b): Support to Range States*

10. The CMS Secretariat included requests for funding support to implement the Decisions emanating from COP12 and relating to the species covered by the Initiative in its standard notification to Parties ([2017/022: CMS Programme of Work for 2018-2020](#)). Additionally, bilateral meetings were held with donors, as set out below.

*Implementation of Decision 12.60 (c): Reporting*

11. The Secretariat reported to the Sessional Committee of the Scientific Council at its 3<sup>rd</sup> session and the Standing Committee at its 48<sup>th</sup> meeting on the progress in implementing these Decisions ([UNEP/CMS/StC48/Doc.14](#)).

Activities to implement Decisions 12.61 – 12.66 Conservation and Management of Cheetah (Acinonyx jubatus) and African Wild Dog (Lycaon pictus)

12. Decisions 12.61 to 12.66 *Conservation and Management of Cheetah (Acinonyx jubatus) and African Wild Dog (Lycaon pictus)* read as follows:

**12.61 Directed to the Secretariat**

*The Secretariat shall:*

- a) *Subject to external funding and in collaboration with Range States, the International Union for the Conservation of Nature (IUCN) and other relevant partners:*
1. *Support the implementation, and regular revision of existing joint Cheetah and African Wild Dog conservation plans and strategies, both regional and national;*
  2. *Develop and implement strategies to reinforce international cooperation on the management of Cheetahs and African Wild Dogs, including effective information exchange between Range States;*
  3. *Support capacity-building and skill transfer as relevant to Cheetah and African Wild Dog conservation and management, with an emphasis on developing the capacity of the local wildlife authorities in this regard;*

4. *Support the development of relevant databases, which include information on populations across their range, sightings, livestock depredation, killing and illegal trade, within Cheetah and African Wild Dog Range States, taking due consideration of existing inventories collated by the relevant IUCN/Specialist Groups and the Zoological Society of London/Wildlife Conservation Society, and other organizations;*
  5. *Assist Parties to share information with Burkina Faso on the following, in support of the implementation of CITES Decisions 17.235 to 17.238:*
    - a. *Measures implemented by Range States to prevent illegal trade in African wild Dog;*
    - b. *Trade in African Wild Dog, including levels and sources of specimens in trade;*
    - c. *Collaboration amongst Range States of African Wild Dog and exchange of best conservation practices for the preservation and restoration of the species; and collaboration with CMS, International Union for the Conservation of Nature and other interested organizations in taking actions at the national and regional level, in particular with regard to: habitat conservation, the establishment of ecological corridors, the management of infectious diseases, the restoration of prey-basis and human-wildlife conflict;*
  6. *Assist Burkina Faso to report to the Scientific Council, and to the CITES Animals Committee in compliance with CITES Decision 17.238, as appropriate;*
  7. *Promote fundraising to support the effective implementation of conservation and management plans and strategies for cheetah and African Wild Dogs;*
- b) *Encourage those Cheetah and African Wild Dog Range States that are not yet Parties to the Convention to become a Party to the Convention;*
- c) *Report to the Standing Committee at its 48<sup>th</sup> and 49<sup>th</sup> meetings on the implementation of the above Decisions.*

#### **12.62 Directed to Parties**

*Parties are requested to:*

- a) *Collaborate in implementing the Decisions contained in Decision 12.61, paragraphs a) 1-7.;*
- b) *Develop and implement within communities, evidence-based strategies that reduce livestock depredation by Cheetah and African Wild Dog;*
- c) *Develop and implement within communities, evidence-based strategies that reduce disease transmission to African Wild Dogs;*
- d) *Promote wildlife-based income generation mechanisms that benefit both people and wildlife;*
- e) *Provide policy environments that better support sustainable wildlife-based enterprises;*
- f) *Ensure that legislation that protects Cheetahs and African Wild Dogs is in place and that penalties for transgression are sufficiently high to act as a deterrent;*
- g) *Enforce protection within protected areas and maintain buffer zones and connectivity outside, in order to secure the large landscapes necessary for Cheetah and African Wild Dog conservation;*
- h) *Ensure that all large-scale infrastructure development, including fencing and roadbuilding, allows Cheetahs and African Wild Dogs to pass through safely;*
- i) *Consider land zoning options to maintain and restore important areas for Cheetah and African Wild Dog conservation outside protected areas;*

- j) *Investigate opportunities to ensure that Cheetah and African Wild Dog conservation are integrated into relevant educational curricula at national and subnational levels, including schools, universities and professional training colleges;*
- k) *Collaborate and exchange best conservation practices regarding the preservation and restoration of African Wild Dog and Cheetah populations, and cooperate with the International Union for Conservation of Nature (IUCN) and other interested organizations in taking actions at the national and regional level, in particular with regard to: habitat conservation; the establishment of ecological corridors to address habitat fragmentation; the management of infectious diseases; the restoration of prey-basis; human-wildlife conflicts; and trade, including trade in captive bred specimens;*
- l) *Assist the Secretariat, to present a summary report to the Standing Committee at its 48<sup>th</sup> and 49<sup>th</sup> meetings on the progress in implementing the Decisions.*

#### **12.63 Directed to Parties**

*In support of CITES Decisions 17.235 to 17.238, Range and Consumer States of African Wild Dog are encouraged to share with Burkina Faso information about:*

- a) *Measures implemented by range States to prevent illegal trade in African Wild Dog;*
- b) *Trade in African Wild Dog, including levels and sources of specimens in trade;*
- c) *Collaboration amongst Range States of African Wild Dog and exchange of best conservation practices for the preservation and restoration of the species; and collaboration with CMS, International Union for the Conservation of Nature and other interested organizations in taking actions at the national and regional level, in particular with regard to: habitat conservation, the establishment of ecological corridors, the management of infectious diseases, the restoration of prey-basis and human wildlife conflict.*

#### **12.64 Directed to the Scientific Council**

*The Scientific Council should make recommendations to the Standing Committee at its 48<sup>th</sup> or 49<sup>th</sup> meetings based on the reports submitted in accordance with Decision 12.62 and 12.63, including recommendations concerning possible amendments to the list of Cheetah populations presently excluded from CMS Appendix 1 to reflect current conservation status and inform a Decision by the Conference of the Parties at its 13<sup>th</sup> meeting.*

#### **12.65 Directed to the Standing Committee**

*The Standing Committee shall:*

- a) *Consider at its 48<sup>th</sup> and 49<sup>th</sup> meetings the reports submitted by the Secretariat, the Scientific Council and the Parties and as appropriate recommend further actions to be taken;*
- b) *Report to the Conference of the Parties at its 13<sup>th</sup> meeting on the progress in implementing this Decision.*

#### **12.66 Directed to Parties, IGOs & NGOs, Others**

*Parties, intergovernmental and non-governmental organizations are encouraged to support the Cheetah and African Wild Dog Range States and the Secretariat in their efforts to conserve and restore these species across their range; and in implementing the Decisions contained in Decision 12.61, paragraph a), sub-paragraphs 1-7 and Decision 12.62 paragraphs b) – k).*

### *Implementation of Decision 12.61*

13. At ACI1, where dedicated working groups on Cheetah and African Wild Dog were organized, the CMS Secretariat provided Range States with an opportunity to exchange data and information. With the support of the IUCN Cheetah and African Wild Dog Regional Coordinators network, a list of priority activities from the Regional Cheetah and African Wild Dog Action Plans were identified for fundraising outreach, as requested by Decision 12.61(a)(7), and circulated to potential donors.
14. In line with Decision 12.61(a)(5), the Secretariat of CMS circulated an email on behalf of Burkina Faso on 28 February 2018 to all African Wild Dog Range States, inviting them to share the requested information by 16 March 2018. Responses were received by the CMS Secretariat from Namibia and South Sudan. Both responses confirm the vulnerability of the species. Neither of the two responses received indicate that there is illegal trade in African Wild Dog. Namibia demonstrates having adopted a number of conservation measures for African Wild Dog. Based on the responses and in line with Decision 12.61(a)(6), the CMS Secretariat assisted Burkina Faso in submitting reports to the 3<sup>rd</sup> Sessional Committee of the CMS Scientific Council and the 30<sup>th</sup> meeting of the CITES Animals Committee.
15. On the occasion of ACI1, the CMS Secretariat reached out to Range States of Cheetah and African Wild Dog that are not yet Parties to CMS and invited them to accede to the Convention [Decision 12.61(b)]. The Secretariat also reported to the Standing Committee on the implementation of these Decisions [Decision 12.61(c)].
16. Given the resource and time constraints of the Secretariat, Decisions 12.61(a)(1), (3) and (4) have not been implemented. The decisions are proposed for renewal and are contained in Annex 2 of this document.

### *Implementation of Decision 12.64: Discussion by the Scientific Council*

17. The Scientific Council discussed the inclusion of Cheetah populations currently excluded from CMS Appendix I (for background see document UNEP/CMS/ScC-SC3/Doc.7.3.2) at its 3<sup>rd</sup> Sessional Committee meeting. Since a recommendation is still expected, the Decision is suggested for renewal in Annex 2 of this document.

### *Implementation of Decision 12.65: Reporting*

18. The Standing Committee received a report from the Secretariat regarding the implementation of the Decision and took note of ([UNEP/CMS/StC48/Doc.14](#)).

### *Amendments recommended by ACI1*

19. ACI1 discussed in working groups the implementation of the Decisions. The amendments recommended by ACI1 to Decisions 12.61 12.66 are contained in Annex 4 of Document [CMS-CITES/ACI1/Outcomes.2](#). The amended Decisions have been edited by the Secretariat and are contained in Annex 2 of this document.

Activities to implement Decisions 12.67 – 12.70 Conservation and Management of the African Lion (Panthera leo)

20. Decisions 12.67 – 12.70 Conservation and Management of the African Lion (Panthera leo) requested the following actions:

**12.67 Directed to the Secretariat**

*The Secretariat shall:*

- a) *Subject to external funding and in collaboration with African Lion Range States, and the International Union for the Conservation of Nature (IUCN), and on matters falling within the remit of CMS, collaborate with the Secretariat of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) to:*
- i. Investigate possible mechanisms to develop and support the implementation of joint lion conservation plans and strategies, taking into consideration existing lion conservation plans and strategies;*
  - ii. Develop an inventory of African Lion populations across its range, taking due consideration of existing inventories developed by African Lion Range States;*
  - iii. Support the development of relevant databases by African Lion Range States;*
  - iv. Develop strategies to reinforce international cooperation on the management of Lions;*
  - v. Undertake a comparative study of Lion population trends and conservation and management practices, such as lion hunting, within and between countries, including the role, if any, of international trade;*
  - vi. Support capacity-building in Lion conservation and management, including where appropriate, the making of non-detriment findings where a Range State requests it;*
  - vii. Support public awareness raising as well as education programmes in African Lion Range States, in order to support coexistence between humans and lions and to promote measures for the conservation and recovery of African Lion populations;*
  - viii. Promote fundraising, as part of its overall fundraising initiatives, to support the effective implementation of conservation and management plans and strategies for African Lion;*
  - ix. Consult with the CITES Secretariat on developing a joint web portal to permit, amongst other things, the posting and sharing of information regarding conservation and management of African Lions; and*
- b) *Report to the Standing Committee at its 48<sup>th</sup> and 49<sup>th</sup> meetings on the implementation of the above Decisions.*

**12.68 Directed to Parties**

*Parties are requested to:*

- a) Collaborate in implementing the Decisions contained in Decision 12.67 a), paragraphs i. – ix.;*
- b) Report to the Standing Committee at its 48<sup>th</sup> and 49<sup>th</sup> meetings on collaborative action taken in implementing the Decisions.*

### **12.69 Directed to the Standing Committee**

*The Standing Committee shall:*

- a) *Consider at its 48<sup>th</sup> and 49<sup>th</sup> meetings the reports submitted by the Secretariat and the Parties, and as appropriate recommend further actions to be taken;*
- b) *Report to the Conference of the Parties at its 13<sup>th</sup> meeting on the progress in implementing this Decision.*

### **12.70 Directed to Parties, IGOs & NGOs, Others**

*Parties, intergovernmental and non-governmental organizations are encouraged to support the African Lion Range States and the Secretariat in their efforts to conserve and restore this iconic species across the continent, taking into consideration existing land use practices; and in implementing the Decisions contained in Decision 12.67 a), paragraphs i. – ix.*

#### *Implementation of Decision 12.67*

21. The CMS Secretariat collaborated closely with the CITES Secretariat and the International Union for the Conservation of Nature (IUCN) to advance the considerable amount of work called for under Decision 12.67. With the generous financial support received from Belgium, Germany and Switzerland, several activities could be implemented or progressed, as indicated below. However, given the limited resources and time available, it was not possible for the Secretariat to implement the full range of activities called for in Decision 12.67. The Secretariat therefore proposes that the activities be amended where needed to focus on CMS-related work and be continued after the 13<sup>th</sup> meeting of the Conference of the Parties, as explained in the paragraphs below. Several components of Decision 12.67 call for long-term, broad engagements and actions. In order to better cluster and assign activities, the CITES and CMS Secretariats contracted the IUCN/Species Survival Commission Cat Specialist Group (IUCN/SSC Cat SG) to develop a guiding document to provide overarching context and priorities for lion conservation and management across sub-Saharan Africa, with a focus on the range of issues in Decision 12.67.
22. The guiding document, entitled Guidelines for the Conservation of Lions in Africa (GCLA), collates up-to-date information, concepts, best practice experiences and recommendations on: the status of Lions in sub-Saharan Africa; Lion conservation strategies and plans; survey and monitoring methods; practical conservation solutions; capacity development; public awareness and education; sharing data and information; and implementation structures.
23. A first version of the GCLA was shared with the African Lion Range State representatives that attended ACI1 for review and approval. Based on the discussions held at this meeting, a second version of the GCLA has been prepared and made available to the present meeting as an information document (UNEP/CMS/COP13/Inf.18). The executive summary of the document is also available in Annex 4 to the present document (available in English and French only). The Secretariat notes that the various sections that compose the GCLA are intended to be regularly revised and updated in consultation with African Lion Range States and other relevant stakeholders. The content of the GCLA informs priority areas for the conservation of Lions in Africa, and can therefore facilitate the cooperation between African Lion Range States under the scope of CITES and CMS.

#### *Implementation of Decision 12.67, paragraph (a)(i): Support the implementation of joint lion conservation plans and strategies*

24. In support of this paragraph, IUCN has developed the GCLA based on Lion conservation strategies for Eastern and Southern Africa, and West and Central Africa, and the review of the implementation of these strategies.

*Implementation of Decision 12.67, paragraph (a)(ii): Inventory of African Lion populations*

25. In the context of the GCLA, IUCN collated relevant information on the distribution, conservation status and assessment of the Lion in sub-Saharan Africa. Additionally, IUCN identified and delineated meaningful and practical conservation units (meta-populations) for Lions, and considered suitable mechanisms to monitor these. Furthermore, the GCLA considered concepts and methods for ongoing monitoring of Lions and their staple prey populations. IUCN has invited all Lion range States to contribute national or site-specific data, and combines this with providing support as needed for maintaining relevant databases (see paragraph 26 below).

*Implementation of Decision 12.67, paragraph (a)(iii): Support databases by African lion range States*

26. These activities, to be initiated by IUCN, partially overlap with the actions envisaged under paragraph (a)(ii), and involve outreach to Lion Range States in Africa to inquire about existing relevant data bases; database and information needs; the capacity to develop or run databases; and resource implications.

*Implementation of Decision 12.67, paragraph (a)(iv): Develop strategies to reinforce international cooperation on lion management*

27. The GCLA contain advice and strategies to reinforce international and intercontinental cooperation on the management of Lions. Furthermore, specific conservation strategies for transboundary Lion populations are being developed, an important consideration for CMS. Relevant proposals for such strategies are to be discussed at future ACI meetings.
28. Further opportunities to reinforce the international cooperation on Lion management and trade are likely to result from recommendations emanating from: the study on legal and illegal trade in African lions, undertaken by TRAFFIC (Annex 1 of [CITES SC70 Doc.54.1](#)); the work of the Standing Committee in the context of CITES Decision 17. 241 (including through a CITES Task Force on African Lions (CITES); and the capacity building activities described under the implementation of paragraph (a)(vi), noting for example that Spain announced the organization of a second workshop on non-detriment findings for trade in trophies of African Lions, to be held in an African country after CITES COP18.

*Implementation of Decision 12.67, paragraph (a)(v): Undertake a comparative study of lion conservation and management practices*

29. The study called for in Decision 12.67, paragraph (a)(v) could not be undertaken due to a lack of resources but seems to remain pertinent. The Secretariat therefore proposes that this activity be extended. The GCLA collate practical information and advice for the implementation of conservation and management measures for Lions, identify needs for surveys and research, and gather materials on options for the sustainable management of lion populations, e.g. through trophy hunting. This could also provide useful information for the study.

*Implementation of Decision 12.67, paragraph (a)(vi): Support capacity-building in Lion conservation and management, including non-detriment findings*

30. By collecting and making available materials and research results concerning Lion conservation and management, IUCN's GCLA support capacity building among multiple stakeholders. The GCLA address practical recommendations on: the conservation and management of lion habitats and prey species; the sustainable management of Lion populations; the detection, suppression and prevention of poaching and illegal trade; the coexistence of local people with Lions to mitigate conflicts and provide conservation incentives; and advice on public awareness, training and capacity building.

31. The European Union submitted to the 30<sup>th</sup> meeting of the CITES Animals Committee the [results](#) of the international expert workshop on non-detriment findings for hunting trophies of certain African species included in CITES Appendix I and II, which took place in Seville in April 2018. The international workshop, in which the CITES and CMS Secretariats and IUCN took part, developed, among other things, guidance for the making of non-detriment findings for trade in hunting trophies of African Lion. The outcomes of the workshop, which include best hunting management practices and guidance on non-detriment findings for trade in trophies of African Lions, represent valuable capacity building tools for Parties and African Lion Range States and, as such, contribute substantially to the implementation of Decision 12.67, paragraph (a)(v)).
32. The webportal developed by the CMS Secretariat (see paragraph 33) is expected to make available a significant number of capacity-building materials to support Lion management and conservation in Africa. It would allow, among other things, the posting and sharing of information and voluntary guidance on the making of non-detriment findings for trade in African Lions.

*Implementation of Decision 12.67, paragraphs (a)(vii) and (a)(ix): Support public awareness raising and education in African Lion Range States; consult with CITES Secretariat on developing a joint web portal*

33. CMS has made an in-kind contribution to the implementation of paragraphs (a)(vii) and (a)(ix) of Decision 12.67 by developing a joint web portal with the CITES Secretariat and the Cat Specialist Group of the Species Survival Commission of IUCN, hosted on the CMS website, and maintained by these three bodies. While being further developed, the web portal already provides hands-on information for government representatives and stakeholders, such as: existing Lion conservation and management strategies; lion population databases; capacity-building tools, including guidance for the making of non-detriment findings; fundraising opportunities; ongoing conservation and management projects; a lion conservation library; trade in Lions; Lion conservation planning tools; and relevant literature, studies and resources. The concept and layout of the [web portal](#) were introduced to Range States at AC11 in November 2018.

*Implementation of Decision 12.67, paragraph (a)(viii): Promote fundraising*

34. The CITES Secretariat provided information on fundraising and the possible establishment of a multi-donor technical trust fund for African Lions, including possible challenges, in document [CITES SC69 Doc. 58](#).
35. At the request of the CITES Standing Committee, the CITES Secretariat issued Notification to the Parties [No. 2018/042 of 30 April 2018](#) with information on existing funding opportunities for supporting African Lion conservation activities, the implementation of relevant plans and strategies, and the actions outlined on Decision 17.241, paragraphs a) to j). The same Notification reminded Parties and African Lion Range States of the contributions that intergovernmental (IGOs) and non-governmental organizations (NGOs) make towards African Lion conservation, and the opportunities to collaborate with these IGOs and NGOs.
36. While not required by the CMS decisions on the African Lion, the information on potential funding sources for lion conservation provided by the CITES Secretariat and set out in paragraphs 34 and 35 is of importance to CMS Parties.

*Implementation of Decision 12.67 paragraph (b): Reporting*

37. The CMS Secretariat reported to the CMS Standing Committee at its 48<sup>th</sup> meeting ([UNEP/CMS/StC48/Doc.14](#)).

*Amendments recommended by ACI1*

38. ACI1 discussed in working groups the implementation of the Decisions as well as the draft GCLA. The amendments recommended by ACI1 to Decisions 12.67 – 12.70 are contained in Annex 2 of Document [CMS-CITES/ACI1/Outcomes.2. The amended Decisions are proposed for adoption as set out in Annex 2 of this document.](#)

Eighteenth meeting of the Conference of the Parties to CITES (CITES COP18)

39. The 18<sup>th</sup> meeting of the Conference of the Parties to CITES (COP18, Geneva, Switzerland, 2019) Parties adopted a suite of decisions relating to the Joint CITES-CMS African Carnivores Initiative (see document [CoP18 Com I. Rec. 1](#)). As recommended by ACI1, the decisions include a direction to the CITES Secretariat to develop, together with the CMS Secretariat, a dedicated Programme of Work (POW) for the ACI, and to submit a draft of the POW to the Standing Committee of CITES for review and appropriate revision (CITES Decision 18.BB (a)).
40. The decisions, which were adopted by CITES COP18, concerning specific species are contained in documents [CoP18 Com.I.1](#) (African Lion), [CoP18 Doc. 60](#) (Cheetah; see also document [CoP18 Com. II Rec.11 \(Rev.1\)](#)) and [CoP18 Doc. 46](#) (Leopard; see also [CoP18 Com I. Rec. 15 \(Rev. 1\)](#)).

Discussion and analysis*Development of a Programme of Work*

41. As mentioned at paragraph 39 above, and to ensure long-term engagement by CITES and CMS, ACI1 recommended that the CMS and CITES Secretariats develop a joint programme of work (POW) for the ACI (Annex 1, paragraph (f) of [CMS-CITES/ACI1/Outcomes.2](#)). The POW should allocate responsibilities to CITES and CMS bodies in accordance with the mandates of the two Conventions. It should build on the current arrangement, by which the Secretariats implement CITES and CMS Resolutions and Decisions and set priorities and specify activities: To enable evaluating the success of implemented activities, the POW should include indicators. Finally, the POW should identify potential partners for the implementation of activities (Annex 1, paragraphs (b)-(d) of [CMS-CITES/ACI1/Outcomes.2](#)).

*Guidelines for the Conservation of Lions in Africa*

42. The *Guidelines for the Conservation of Lions in Africa* (GCLA), as introduced in paragraphs 22-23 above, are a living document, intended to be reviewed and updated regularly. An instruction to that effect has been incorporated in the draft Decisions contained in Annex 2 of this document. An Executive Summary of the Guidelines is contained in Annex 3 of this document. The full version of the Guidelines has been made available as Information Document UNEP/CMS/COP13/Inf.18 in English and French.

*Development of a Roadmap for the Conservation of Leopards in Africa*

43. Following the listing of Leopard on Appendix II of CMS, a Roadmap was developed by the IUCN Cat Specialist Group with the financial support of the Federal and Flemish Governments of Belgium and introduced to Range States at ACI1. Taking into account comments made on the Roadmap during the meeting, ACI1 also recommended that the Roadmap be further reviewed by Range States and subsequently submitted to the Animals Committee of CITES and the CMS Scientific Council, as well as CMS COP13 (Annex 3, paragraph (b) of [CMS-CITES/ACI1/Outcomes.2](#)). On 25 July 2019, the Roadmap was circulated in English to CITES and CMS Parties by the IUCN Cat Specialist Group. Substantive comments were received from Namibia and Uganda. The Roadmap is contained in Annex 4 of this document.

44. In order to further advance conservation measures for the Leopard, the further development of the Roadmap has been suggested in the draft Decisions contained in Annex 2 of this document.

#### *CITES Big Cats Task Force*

45. CITES Parties at COP18 instructed the CITES Secretariat to establish and convene a Big Cats Task Force (CITES Lion 18.BB, [CoP18 Com.I.1](#)), subject to the 73<sup>rd</sup> meeting of the CITES Standing Committee approving the terms of reference as well as external funding. The Task Force should focus on big cat species from Africa, Asia and Latin America, and consist of representatives from Parties most affected by the illegal trade in big cats, the International Consortium on Combating Wildlife Crime partner organizations, other Parties and organizations, as appropriate, and experts who the Secretariat determines may contribute to the Task Force.
46. The outcomes of the work of the CITES Big Cats Task Force, and the ensuing recommendations by the CITES Standing Committee, could inform the ACI.

#### *Development of a Resolution*

47. It was recommended by the Parties attending ACI1 (Annex 1, paragraph (h) of [CMS-CITES/ACI1/Outcomes.2](#)) that the CMS and CITES Secretariats prepare resolutions, setting out the fundamental principles and objectives of the ACI for adoption by CMS COP13 and CITES COP19. In response to the recommendation, the CMS Secretariat, in consultation with the CITES Secretariat, prepared a draft resolution on the Joint CITES-CMS African Carnivores Initiative, contained in Annex 1 to this document.

#### *Funding mechanisms for the ACI*

48. ACI1 also recommended that the CMS and CITES Secretariats should jointly explore possible funding mechanisms for the ACI, including the use of the IUCN Save Our Species Conservation Action Programme (SOS), and bring forward respective results (Annex 1, paragraph (i) of [CMS-CITES/ACI1/Outcomes.2](#)). Through CITES Notification [No. 2018/042 of 30 April 2018](#), information was circulated to CITES Parties on existing funding opportunities for supporting African lion conservation activities (see paragraph 35 above).
49. The Secretariats have discussed with IUCN about collaborating with the SOS Initiative. This was welcomed by IUCN, resulting in a commitment to include the implementation of CMS and CITES resolutions and decisions as criteria for relevant proposals submitted to the SOS Initiative being considered for funding.
50. Further discussions are ongoing to assess how the SOS Programme can also support Governments' efforts to conserve African carnivores, given that currently only non-governmental organizations are eligible for funding under the Initiative.

#### *Resource requirements*

51. As per the recommendation of ACI1 to establish a Joint CITES-CMS Programme Officer position at one of the Conventions' Secretariats to oversee the coordination of the ACI and to foster further synergies between the two Conventions, a Junior Professional Officer (JPO) has been offered to the Secretariats by the Government of Germany. The JPO is expected to join the CMS Secretariat in early 2020 to support the Secretariat with the implementation of the activities of the ACI, as well as further activities of CMS in Africa.

Recommended actions

52. The Conference of the Parties is recommended to:

- a) adopt the draft Resolution contained in Annex 1 of this document;
- b) adopt the draft Decisions contained in Annex 2 of this document;
- c) take note of the Executive Summary of the Guidelines on the Conservation of Lions in Africa contained in Annex 3 of this document;
- d) take note of the Roadmap for the Conservation of Leopard in Africa contained in Annex 4 of this document.

## DRAFT RESOLUTION

**JOINT CITES-CMS AFRICAN CARNIVORES INITIATIVE**

*Recognizing* that the African Wild Dog (*Lycaon pictus*), Cheetah (*Acinonyx jubatus*), Leopard (*Panthera pardus*) and Lion (*Panthera leo*) should be conserved for future generations as they constitute common heritage and are part of the identity of the African continent;

*Concerned* by the Red List Assessments of the International Union for Conservation of Nature (IUCN), showing that populations of African Wild Dog (*Lycaon pictus*) (2012), Cheetah (*Acinonyx jubatus*) (2015), Leopard (*Panthera pardus*) (2016) and Lion (*Panthera leo*) (2016) are in decline in most of their range in Africa;

*Acknowledging* that the African Wild Dog (*Lycaon pictus*), Cheetah (*Acinonyx jubatus*), Leopard (*Panthera pardus*) and Lion (*Panthera leo*) share common threats and pressures, including habitat loss and fragmentation, conflict with humans, depletion of the prey base, and unsustainable or illegal utilization practices, which require urgent attention and can be addressed jointly for all four species;

*Recalling* Resolution Conf. 13.3 on *Cooperation and synergy with the Convention on the Conservation of Migratory Species of Wild Animals (CMS)* of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES);

*Also recalling* CMS Resolution 11.10 (Rev.COP12) *Synergies and Partnerships*, stressing “*the importance of supporting the objectives of biodiversity-related multilateral environmental agreements to improve national collaboration, communication and coordination with relevant organizations and processes*”;

*Recognizing* the importance of the collaboration between African carnivore Range States, CITES, CMS and IUCN to undertake effective conservation actions in favour of the four carnivore species;

*Reaffirming* the recommendation of the First Meeting of the Range States to the Joint CITES-CMS African Carnivores Initiative that “[a]ddressing the threats to African carnivores requires the long-term commitment of Range States and the international community”;

*The Conference of the Parties to the  
Convention on the Conservation of Migratory Species of Wild Animals*

1. *Recognizes* the Joint CITES-CMS African Carnivores Initiative as a framework to build more coherence in the work that CMS and CITES, in cooperation with IUCN, are devoting to the African Wild Dog (*Lycaon pictus*), Cheetah (*Acinonyx jubatus*), Leopard (*Panthera pardus*) and Lion (*Panthera leo*);
2. *Agrees* that the objectives of the Initiative are to enhance the conservation, restoration and management of the African Wild Dog (*Lycaon pictus*), Cheetah (*Acinonyx jubatus*), Leopard (*Panthera pardus*) and Lion (*Panthera leo*), as well as their habitats and prey, by strengthening coordination and cooperation across the species’ ranges in Africa, and taking into consideration the needs and livelihoods of local communities living with the four carnivores;

3. *Recognizes* that the Initiative is an instrument to:
  - a) avoid duplicative activities and associated costs;
  - b) generate resources;
  - c) pool funds and expertise;
  - d) deploy effective and equitable measures amongst the four species;
  - e) apply holistic conservation approaches;
  - f) organize the collaboration with other conservation initiatives and organizations; and
  - g) create opportunities for donors to allocate resources to well-coordinated and internationally recognized conservation actions.
4. *Agrees* that the Initiative should focus on:
  - a) developing and implementing conservation strategies for each of the four African carnivore species;
  - b) taking measures that allow and secure connectivity between populations of the four African carnivores;
  - c) promoting the coexistence of local communities and the four carnivores in landscapes where they occur;
  - d) promoting innovative approaches that deliver sustainable benefits to the local communities that pay the costs of living alongside the four species;
  - e) developing the capacity of Range States to conserve and manage, as well as monitor, populations of the four African carnivore species;
  - f) improving education and awareness on the plight of African carnivores; and
  - g) enhancing and facilitating communication and information sharing between the African Range States of the four carnivores;
5. *Agrees* that the Initiative should be implemented through a Programme of Work that will provide concrete, coordinated and synergistic conservation activities for all four species across their range, and be amended or adapted, as required;
6. *Requests* the Secretariat to convene regular Range State meetings in cooperation with the Secretariat of CITES to assess the implementation of the Programme of Work, revise the Programme of Work as necessary, and monitor the functionality of the Initiative;
7. *Encourages* Parties, intergovernmental and non-governmental organizations and donors to contribute to the objectives of the Initiative, and to support the Initiative through financial and technical resources; and
8. *Requests* the Secretariat to report on the implementation of this Resolution to each meeting of the Conference of the Parties, as appropriate.

## DRAFT DECISIONS

**JOINT CITES-CMS AFRICAN CARNIVORES INITIATIVE*****Directed to the Secretariat***

13.AA The Secretariat shall:

- a) work with the CITES Secretariat to include the African Carnivores Initiative in the proposals for the new CMS-CITES joint work programme for the period 2021-2025, to be developed;
- b) in close cooperation with the Secretariat of CITES and IUCN, develop a draft Joint Programme of Work (POW) for the African Carnivores Initiative, taking into account the decisions adopted by CMS COP13 on the African Wild Dog, Cheetah, Leopard and Lion, the outcomes of the 18<sup>th</sup> meeting of the Conference of the Parties to CITES, as well as the recommendations emanating from the First Meeting of Range States to the Joint CITES-CMS African Carnivores Initiative (ACI1);
- c) submit the draft POW to the CMS Standing Committee for approval; and
- d) report on the implementation of this Decision to the Conference of the Parties at its 14<sup>th</sup> meeting.

***Directed to the Standing Committee***

13.BB The Standing Committee shall review and approve the draft Programme of Work submitted by the Secretariat.

**CONSERVATION AND MANAGEMENT OF THE AFRICAN LION (*Panthera leo*)*****Directed to the Secretariat***

13.AA The Secretariat shall, subject to external funding and in collaboration with African Lion Range States and the Secretariat of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) as well as the International Union for the Conservation of Nature (IUCN), and, taking into consideration, as appropriate, the *Guidelines for the Conservation of Lions in Africa*:

- a) support the implementation of activities in joint African Lion conservation plans and strategies that relate to the implementation of CMS, with a focus on matters relating to habitat conservation and land-use, creation of corridors, prey depletion, human-Lion conflict including poisoning, education and awareness raising and community involvement and, as needed, the review of such plans and strategies;
- b) support the development of an inventory of all African Lion populations across its range, and of relevant databases;

- c) encourage international cooperation on the conservation and management of African Lions, with particular focus on cross-border African Lion populations and within the context of the establishment of transfrontier conservation areas;
- d) jointly with CITES undertake a comparative study on African Lion population trends and conservation and management practices, such as Lion hunting, within and between countries, including the role, if any, of international trade;
- e) support capacity building in African Lion conservation and management;
- f) provide or develop advice for African Lion Range States on financing the effective implementation of CMS decisions on African Lion;
- g) maintain a joint CMS-CITES web portal on African Lions, that also allows for the posting and sharing of information, voluntary guidance on the conservation and management of African Lion; and
- h) report on progress relating to the implementation of paragraphs a) to g) and 13.BB to the Conference of the Parties at its 14<sup>th</sup> meeting.

***Directed to the Scientific Council***

13.BB The Scientific Council shall review the Guidelines for the Conservation of Lions in Africa, and formulate recommendations as appropriate for consideration by the African Lion Range States, IUCN and others, as needed;

***Directed to the African Lion Range States***

13.CC African Lion Range States are encouraged to collaborate in implementing the measures contained in Decisions 13.AA paragraphs a) to g).

***Directed to All Parties, governmental, intergovernmental, non-governmental organizations, donors and other entities.***

13.DD All Parties, governmental, intergovernmental, non-governmental organizations, donors and other entities are encouraged to support the African Lion Range States and the Secretariat:

- a) in their efforts to conserve and restore this iconic species across the continent, taking into consideration the Guidelines for the Conservation of Lions in Africa; and
- b) in implementing Decision 13.AA.

## **CONSERVATION AND MANAGEMENT OF THE CHEETAH (*Acinonyx jubatus*) AND AFRICAN WILD DOG (*Lycaon pictus*)**

### ***Directed to the Secretariat***

13.AA The Secretariat shall:

- a) subject to external funding and in collaboration with Range States, the International Union for Conservation of Nature (IUCN) and other relevant partners:
  - i. support the implementation, and regular revision of existing joint Cheetah and African Wild Dog conservation plans and strategies, both regional and national; Encourage the countries who do not have an action plan, to draw up such action plans, and support the implementation of these plans.
  - ii. develop and implement strategies to reinforce international cooperation on the management of Cheetahs and African Wild Dogs, including effective information exchange between Range States;
  - iii. support capacity building and skill transfer as relevant to Cheetah and African Wild Dog conservation and management, with an emphasis on developing the capacity of the local wildlife authorities in this regard;
  - iv. support the development of relevant databases, which include information on populations across their range, sightings, livestock depredation, killing and illegal trade, within Cheetah and African Wild Dog Range States, taking due consideration of existing inventories collated by the relevant IUCN/Specialist Groups and the Zoological Society of London/Wildlife Conservation Society, and other organizations;
  - v. promote fundraising to support the effective implementation of conservation and management plans and strategies for Cheetah and African Wild Dogs;
- b) encourage those Cheetah and African Wild Dog Range States that are not yet Parties to the Convention to become Parties to the Convention;

### ***Directed to Parties***

13.BB Parties are requested to:

- a) collaborate in implementing the Decisions contained in Decision 13.AA, paragraphs a) i-v.;
- b) develop and implement within communities, evidence-based strategies that reduce livestock depredation by Cheetah and African Wild Dog;
- c) develop and implement within communities, evidence-based strategies that reduce disease transmission to African Wild Dogs;
- d) promote wildlife-based income generation mechanisms that benefit both people and wildlife;
- e) develop policies that assist the development of sustainable wildlife-based enterprises;

- f) ensure that legislation that protects Cheetahs and African Wild Dogs is in place and that penalties for transgression are sufficiently high to act as a deterrent;
- g) enforce protection within protected areas and maintain buffer zones and connectivity outside, in order to secure the large landscapes necessary for Cheetah and African Wild Dog conservation;
- h) ensure that all large-scale infrastructure development, including fencing and roadbuilding, allows Cheetahs and African Wild Dogs to pass through safely;
- i) consider land zoning options to maintain and restore important areas for Cheetah and African Wild Dog conservation outside protected areas;
- j) investigate opportunities to ensure that Cheetah and African Wild Dog conservation are integrated into relevant educational curricula at national and subnational levels, including schools, universities and professional training colleges;
- k) collaborate and exchange best conservation practices regarding the preservation and restoration of African Wild Dog and Cheetah populations, and cooperate with the International Union for Conservation of Nature (IUCN) and other interested organizations in taking actions at the national and regional level, in particular with regard to: habitat conservation; the establishment of ecological corridors to address habitat fragmentation; the management of infectious diseases; the restoration of prey-base; human-wildlife conflicts; and trade, including trade in captive bred specimens;

***Directed to the Scientific Council***

- 13.CC The Scientific Council should make recommendations to the Conference of the Parties concerning possible amendments to the list of Cheetah populations presently excluded from CMS Appendix I to reflect the current conservation status and inform a Decision by the Conference of the Parties at its 14<sup>th</sup> meeting.

***Directed to Parties, governmental, intergovernmental and non-governmental organizations, donors and other entities***

- 13.DD Parties, intergovernmental and non-governmental organizations are encouraged to support the Cheetah and African Wild Dog Range States and the Secretariat in their efforts to conserve and restore these species across their range; and in implementing the Decisions contained in Decision 13.AA, paragraph a), sub-paragraphs i.-v. and Decision 13.BB paragraphs b) – k).

## CONSERVATION AND MANAGEMENT OF THE LEOPARD (*Panthera pardus*) IN AFRICA

### ***Directed to the Secretariat***

13.AA The Secretariat shall:

- a) share the Roadmap for the Conservation of Leopards in Africa with the Scientific Council;
- b) consider the Roadmap in the development of the Joint Programme of Work for the African Carnivores Initiative;
- c) report on progress relating to the implementation of this Decision and Decision 13.BB to the Conference of the Parties at its 14<sup>th</sup> meeting.

### ***Directed to the Scientific Council***

13.BB The Scientific Council shall review the Roadmap for the Conservation of Leopards in Africa, and formulate recommendations as appropriate for consideration by the Range States, IUCN and others, as needed.

## EXECUTIVE SUMMARY

## GUIDELINES FOR THE CONSERVATION OF LIONS IN AFRICA

1. The *Guidelines for the Conservation of the Lion in Africa* (GCLA) contribute to implementing [CITES Conference of the Parties Decision 17.241](#) and [CMS Conference of the Parties Decision 12.67](#) on the conservation of *Panthera leo* in Africa. The Lion is included in Appendix II of both Conventions and is listed as Vulnerable in the IUCN Red List. The GCLA provide practical guidance for the survey, conservation and management of Lion populations in Africa, to facilitate the implementation of the Regional Conservation Strategies (IUCN Species Survival Commission Cat Specialist Group 2006a, b) and National or Regional Action Plans developed based on these Strategies. CITES and CMS are joining forces in the African Carnivore Initiative to conserve iconic African carnivores, and the GCLA should assist this effort by providing a compendium of ideas, practical concepts and tools developed to date or in the future in English and French. It is meant to be a “living document” that will continuously integrate new instruments tools, concepts and experiences as they are being developed or new insight becomes available.

2.1 Since it was first assessed in 1996, the Lion has always been listed as Vulnerable on the IUCN Red List of Threatened Species (hereafter: Red List). The most recent Red List assessment (Bauer et al. 2015a) performed a time trend analysis of census data for relatively well monitored lion populations. From these, the authors inferred a decline of 43 per cent over three generations and showed a dichotomy across the continent: Sample Lion populations increased by 12 per cent in four southern African countries (Botswana, Namibia, South Africa and Zimbabwe) and in India, while an observed decline of 60 per cent in sample populations was inferred for the remainder of its African range. However, the representativeness of some data was disputed, e.g. by the United Republic of Tanzania which has now launched a nation-wide Lion survey to contribute to more complete assessments in the future. In a regional assessment for West Africa, fewer than 250 Lions were estimated to remain, resulting in the lion being assessed as Critically Endangered in West Africa (Henschel et al. 2015).

2.2. The Regional Conservation Strategies (IUCN SSC Cat Specialist Group 2006a, b) listed 83 ‘Lion Conservation Units’ which contained an estimated total of 33,292 Lions. These areas now contain an estimated 22,947 Lions. Additional populations not listed in 2006, raise this total to 24,472 in 85 remaining populations, plus a “meta-population” of 628 Lions in 44 small fenced reserves in South Africa. The decline in these estimates is consistent with the different data set used for the Red List assessment. The remaining populations in Africa cover a total surface area of approximately 2.5 million km<sup>2</sup>, which is approximately 12.6 per cent of the historical range.

2.3. The direct threats to Lions as identified by Bauer et al. (2015c) are: Human-Lion conflict, prey depletion, habitat loss, killing of Lions for their body parts either for local traditional medicine or to Asia and Asian diaspora, and others (poor protected area management, unsustainable offtake, disease, etc.).

2.4. The Lion population in West and Central Africa, extending into the Horn of Africa and making up the subspecies *Panthera leo leo* together with the only population in India, is of particular concern. The status remains uncertain in many countries with the occasional, unconfirmed reports suggesting dispersal into the former range. However, there are also positive signs in some areas. For example, a previously undocumented population on the border of Sudan and Ethiopia could be the third largest relatively stable population after WAP and Benoue.

2.5. Within a few strongholds, Lions are not threatened with imminent extinction; some populations, especially in Southern Africa, are likely to persist for decades. However, rapid declines in numbers and range indicate that lions will disappear from most of Africa.

3.1. The Regional Conservation Strategies for West and Central Africa, and for East and Southern Africa (IUCN SSC Cat Specialist Group 2006a, b) were developed at a workshop in 2005 in Douala and in 2006 in Johannesburg, respectively. Whereas East and Southern Africa share a common strategy, the document for West and Central Africa contains separate Strategies for the two regions. In 2015, the CMS Secretariat commissioned an evaluation of the implementation of the Strategies. In answer to a questionnaire for the review, the responding countries considered the Strategies important or very important documents. The review concluded that the main threats to lions and the conservation challenges had not changed.

3.2. The over-arching Regional Conservation Strategies (Chapter 3.1), should be transferred into more concrete and specific Action Plans, either on a national level or on a regional/population level, as recommended in the 2006 Lion Conservation Strategies (IUCN SSC Cat Specialist Group 2006a, b). Up to now, we are aware of 13 African countries that have developed National Action Plans for Lions or more general strategies or action plans that include Lions. We recommend, as a next strategic planning step, to develop conservation plans at the level of transboundary population or metapopulation.

4.1. CITES and CMS, the two species-oriented international conventions under the auspices of the United Nations, have agreed on a [joint work programme 2015–2020](#), which provides a framework for cooperation. The CITES and CMS Secretariats jointly developed the African Carnivores Initiative (ACI) with the objective of bringing more coherence to the implementation of existing CITES and CMS Resolutions and Decisions related to the African Wild Dog, Cheetah, Leopard and Lion, recognizing that the four species overlap in their distribution and that overall threats, and the conservation measures called for to address them, are comparable to the four species. The Decisions adopted by CITES COP17 and CMS COP12 on the African Lion are largely overlapping and provide for a set of broad conservation measures ranging from the collection of data and the improvement of conservation and trade management, to capacity-building for Government officials and awareness raising in local communities. This first version of the GCLA was developed as a framework for lion conservation to support Governments and other stakeholders in their conservation activities.

4.2. Coordinated conservation efforts and international cooperation between range countries should be based on thorough strategic planning for its long-term success. The IUCN SSC has developed guidelines for the strategic planning for species conservation (IUCN SSC 2008a,b, IUCN SSC Species Conservation Planning Sub-Committee 2017) and the IUCN SSC Cat SG developed practical guidelines for strategic and project planning in cat conservation (Breitenmoser et al. 2015). The purpose of a careful planning process helps building partnerships, getting the buy-in from stakeholders and local people, and thus enhances the implementation of widely accepted and supported conservation measures. The Strategic Planning Cycle consists of the following steps: 1) Preparation, 2) Status Review, 3) Strategy, 4) Action Plan, 5) Implementation and 6) Monitoring & Evaluation. The circle implies that conservation is an adaptive process.

4.3. In some areas, Lions roam widely and cyclically and predictably cross international borders (Elliot et al. 2014). Many important lion populations are transfrontier populations, and many of the ecosystems that represent Lion strongholds are contiguous across multiple national borders (Cushman et al. 2018). It is therefore appropriate that lion conservation and management should be the subject of collaboration between countries, or even across regions, to benefit from conservation efforts that are harmonised between the relevant Range States. The recognition of the importance of transboundary lion management recently was one of the arguments leading to the listing of this species on Annex II of the Bonn Convention (CMS). To our knowledge, a species-focused transboundary action plan currently only exists in the W-Arly-Pendjari-Oti-Mandouri Transboundary Biosphere Reserve, with a further plan in the Kavango Zambezi Transfrontier Conservation Area in the process of being published.

5. Population size and trends of large carnivores are difficult to determine but are needed to inform conservation actions. Depending on the context at each site, counting or surveying African lions can vary from them being relatively easily monitored right down to the level of individual recognition (e.g. Packer et al. 2005), through to relatively coarse estimates of indices of relative abundance (e.g. Crosmarty et al. 2018) or probability of occupancy (e.g. Midlane et al. 2014). For Lions there is not yet one standardized method used to estimate density or abundance. Total counts of known individuals can be achieved in some areas and are a very effective tool for monitoring vital rates in lion populations. However, perhaps in the majority of instances practitioners are best advised to use indices of the population size. One such approach, track counts, relies on the relationship between frequencies with which tracks (spoor) are detected and an estimate of the actual density (Stander et al. 1998, Funston & Ferreira 2010). The other commonly used approach is call-up stations, which works well for apex carnivores such as Lions and Spotted Hyaenas (*Crocuta crocuta*) (e.g. Smuts et al. 1977, Ogotu & Dublin 1998, Ferreira & Funston 2010). We recommend call-up surveys as the preferred method for surveying lions in areas where they occur in moderate to high densities and readily approach vehicles, and favour spoor surveys in low density areas and at sites where Lions are known to be wary of people.

6.1. Some African Lion populations have crucial range on human-dominated community land, particularly around protected areas. This co-occurrence of Lions with humans often leads to conflict, especially where livestock is also present. In addition to the visible costs of depredation and human attack, there are many 'hidden' costs of conflict (Barua et al. 2013). Truly understanding the drivers of conflict in different sites, including underlying issues, is important, but may take a long time. Once the dynamics of the conflict have been assessed, the following steps can be taken to move from conflict to coexistence: (i) reduce direct threats posed by lions, (ii) offset remaining costs using financial mechanisms (cf. Chapter 6.9), (iii) increase community engagement with conservation, (iv) address cultural and other underlying causes of conflict, (v) empower communities, reduce vulnerabilities and secure natural resources, and (vi) develop mechanisms where lions and other wildlife are seen as a net benefit.

6.2. The majority of the Lion range today is in formal protected areas (PAs; as defined in Lindsey et al. 2018) or is closely associated with PAs. The Red List assessment by Bauer et al. (2015) used mainly data from PAs and found many of these protected populations in decline. Illegal hunting (poaching) of Lions and especially of their wild prey base inside PAs is a major contributor to such declines. The Lion must now be regarded as highly conservation-dependent in which ensuring the integrity and status of PAs is essential to the species' long-term future. Even in the Lion range within existing formally protected areas, lion populations could be 3–4 times higher than they currently are if ecological potential was realized. Mostly, such recovery cannot occur without first achieving effective protection of the site in terms of law enforcement patrols, law enforcement management and intelligence and investigations. The primary limitation to achieving this is usually financial. There are different options for long-term collaborative management partnerships between African statutory wildlife authorities and conservation NGOs to address funding and capacity shortfalls in PAs. Relative to the killing of lions *in situ*, international trade and trafficking of lions has historically been considered a low conservation priority with limited impact on wild populations. The number of hunting trophies exported by Range States steadily increased until about a decade ago. The total number of trophies from wild Lions subsequently decreased while the total overall continues to increase until 2016, due to massive growth in exports by South Africa of captive-bred Lion trophies. Both forms of legal trade, in trophies and bones, have the potential to impact wild Lion status.

6.3. The depletion of prey is recognized as one of the greatest, most pervasive and long-term threats to the conservation and viability of many of the world's large carnivore species, including lions (Ripple et al. 2015, Bauer et al. 2016). Across Africa, the conservation status of ungulate populations is not homogenous. Prey depletion is a consequence of one or several immediate anthropogenic pressures, including the unsustainable hunting of wildlife for meat, 'bushmeat', the loss of habitat and exploitive competition between wild ungulates and domestic livestock (Ripple et al. 2015). The status of ungulate populations however is also correlated to wider and more pervasive factors including economic investment in and management of protected areas (PAs) (Lindsey et al. 2017, Baghai et al. 2018), local economic development (Lindsey et al. 2017), quality of governance and levels of corruption (Smith et al. 2003), regional conflict and war (Daskin & Pringle 2018), wildlife disease (Preece et al. 2017) and climate change (Mduma et al. 1999, Ripple et al. 2015). In this chapter, we first present the different reasons for the decline of prey populations, before summarizing possible solutions.

6.4. Africa's human population is growing at an unprecedented rate, the current population being predicted to almost treble by 2060, from 1.1 billion to over 2.8 billion people (Canning et al. 2015). Whilst there is a moral imperative to develop Africa's economies for the benefit of Africans and alleviation of poverty, if the continent's unique fauna, flora and ecosystems are to survive, conservationists and African governments need to plan for zonation of development and prioritization and preservation of critical habitats. Wide-ranging species such as lions may need particular attention. The African protected area network protects 56 per cent (926,450 km<sup>2</sup>) of extant Lion range (Lindsey et al. 2017). However, effective conservation of African Lions may hinge not only on protection and management of the current network of national protected areas, but also on identifying and protecting the habitat that links protected areas to allow long term gene-flow. Methods in landscape ecology can provide empirical evidence to identify threats to habitat linkages and for prioritization and conservation of critical habitats contributing to habitat connectivity within current Lion range (Elliot et al. 2014, Cushman et al. 2016). Such initiatives also provide policy makers with clear visualisation of planning needs (Cushman et al. 2018). Within the framework of creating landscapes that contribute to protection of lion populations, the attitudes and motivations toward Lion conservation of human communities that live within putative habitat linkages between core protected lion populations are of utmost importance.

6.5. This sub-chapter provides an overview of lion trophy hunting (as defined in IUCN (2016); also known as (tourist) safari hunting or sport hunting) and suggested best practices if it is used as part of a country's wildlife management strategy. We focus here on the hunting of wild Lions. Guidelines for the management of 'managed wild Lions' have been developed in [South Africa's Biodiversity Management Plan for the Lion](#) (Funston & Levendal 2015). It is worth noting that the 10 countries where trophy hunting has recently occurred collectively represent around 70 per cent of remaining wild African lion range and around 75 per cent of the wild population (Dickman et al. in prep). Trophy hunting can maintain Lion range under a wildlife-based land use and generate substantial economic revenue, which often support the country's wider conservation efforts (di Minin et al. 2016, Macdonald 2016). It can generate positive conservation and development impacts when well managed (Cooney et al. 2017), but can also have negative impacts on individual Lion populations, especially where harvest rates are high (Caro et al. 2009, Creel et al. 2016, Loveridge et al. 2007). According to [CITES Resolution Conf. 14.7 \(Rev CoP15\)](#), exports of species should be maintained at a level that has no detrimental effect on the population of the species, and according to the [import requirements for Lion trophies by the U.S. Fish and Wildlife Service](#) (which have been also recommended to other governments; see e.g. Macdonald 2016), trophy hunting should also help improve the status of lions in the wild. Here, we provide some general guidance intended to help ensure that where trophy hunting is practiced, it minimises the risk of detriment to the population and maximises the chance of effective conservation.

6.6. CITES requires that a permit is issued only where the exporting Scientific Authority has determined that trade is not detrimental to the survival of the species. Although there is no single formula that can be applied to every situation, it is possible to define a set of guidelines that will help the Scientific Authority of a Range State to evaluate the potential impact of trade on the conservation status of a particular species. General guidance on how to perform a non-detriment finding (NDF) was provided by Rosser and Haywood (2002) and Parry-Jones (2013). As per [Resolution Conf. 16.7 \(Rev. CoP17\)](#), there are various ways in which a Party's Scientific Authority can make NDFs. However, extant Lion populations can be generally placed into one of two categories: known – those for which robust population data exist; and unknown – those that are data deficient (the majority). For the Lion populations that are data deficient, a far more cautious and restrictive approach to harvest must be applied. With regard to the guiding principles contained in Conf. 16.7, the NDF for Lions may include: information relating to distribution, status and trends of populations based on national conservation plans, where applicable, and which inform harvests; and a review of the sustainability of harvest levels taking into account all mortality sources affecting the wild population of the species, including mortality due to illegal killing. Given that minimum age, sex, and rate of off-take restrictions may be safely and practically applied for trophy harvest in populations of unknown status, these criteria are preferable to ensure sustainability.

6.7. Livestock depredation is most serious where wild prey has been reduced by overgrazing, agricultural development or widespread bushmeat poaching, and where traditional livestock management practices have been abandoned. Some individual Lions persist in taking livestock despite protective measures. In such cases, precisely targeted lethal Problem Animal Control (PAC) of identified persistent stock raiders is far preferable to indiscriminate killing by individuals or communities. In most countries, local or national wildlife authorities are legally tasked with the removal of persistent problem animals. [Living with Lions](#) has been working with Laikipia ranchers since 1997 to assist in conserving predators while minimizing depredation losses. In 2001, 20 Lions were known to have been shot on the ranches, declining to two in 2017.

We offer the following recommendations to wildlife conservation authorities: It is essential to have a clear definition of what constitutes a problem animal that warrants removal, and these may vary depending on land use, conservation priorities and other factors. The first response of a PAC team should be to investigate the circumstances of livestock loss to assess measures short of killing a lion which might resolve the problem. The decision to remove a Lion should only be made when there is evidence that people are doing their part to avoid depredation. Poison should never be used under any circumstances. Translocation is only justifiable when animals are moved into vacant habitat that have no or very few resident Lions and where humans will no longer kill them, i.e. newly created reserves. It is essential that good records be kept of all complaints and interventions, including details of the complaints, the results of investigations, details of any interventions performed, and whenever possible, follow-up monitoring of results.

6.8. The overarching goal of African Lion conservation efforts should be – besides securing the survival of viable populations – to restore any missing ecological processes and allow populations to recover on their own with the minimum amount of human intervention. Where it is not possible to restore ecological processes, Lion conservation efforts should seek to mimic natural processes using appropriate interventions such as reintroduction, genetic management and, in extreme cases, genetic rescue. This chapter complements the [IUCN Guidelines for Reintroductions and Other Conservation Translocations](#).

If connectivity cannot be restored (Chapter 6.4), any (meta-)population smaller than 50 prides will likely require some human intervention to ensure long-term genetic sustainability. Ideally this would be through regular reinforcement events with suitable individuals, typically male lions to mimic nomadic males moving into a new area with occasional translocation of females to mimic less common lioness migration. In cases where a population is already experiencing inbreeding, a genetic rescue effort may be necessary. In cases where lions are extinct in an area, reintroduction is the only way to speed up the re-establishment of lion populations in the area. Individuals must be selected carefully regarding their origin, demographics and genetics and tested for diseases and parasites. Growth phases and genetic diversity must be monitored closely, and inbreeding should be prevented. The introduction of new individuals into an existing population may be designed so as to mimic a take-over. However for any release, a release strategy must be decided and the habitat requirements must be secured beforehand.

6.9. Lions generate significant economic revenue at national scales, as they are one of the most sought-after animals by both photographic tourists and trophy hunters (McNeely 2000, Lindsey et al. 2012). However, in marked contrast, live Lions usually have very little, no, or even negative value for local Africans that live alongside them. The challenge is how to effectively translate the international value of live lions down to a local scale, so that it not only offsets the costs imposed by them, but is also sufficient to incentivize long-term coexistence. Financial approaches intended to improve Lion conservation and coexistence include: (i) compensation and insurance schemes, (ii) revenue-sharing and employment in conservation services, (iii) conservancies and other community wildlife areas, (iv) conservation products, (v) conservation performance payments, and (vi) landscape-level business models. Ultimately, there is no single solution which will ensure the equitable, sustainable transfer of the global value of Lions to a local level. However, there is a considerable range of approaches, both traditional and novel, which can help not only to offset the local costs of Lions, but also to ensure that they are ultimately seen as a net benefit to the people most affected by their presence.

7.1. Having well-trained people is as vital in nature conservation and management as in any other field. We present a number of training opportunities in Africa or online. We would also like to refer you to "[Protected Area Staff Training: Guidelines for Planning and Management](#)" (Kopylova & Danilina 2011) from the IUCN Best Practice Protected area Guidelines Series and the [Réseau des Institutions de Formation Forestière et Environnementale de l'Afrique Centrale](#) (RIFFEAC).

7.2. In 2008, WildCRU started a [Diploma in International Wildlife Conservation Practices](#) aimed at young, practical conservationists from developing countries. To enrol, applicants have to go through a [competitive selection procedure](#). The programme involves seven months of intensive, residential tuition at WildCRU. The course is made possible by a donation from the Recanati-Kaplan foundation which covers all course-related costs (tuition, visa and travel costs) and students – having gone through a competitive selection procedure – receive a living stipend and are provided with housing on site at WildCRU. The aim is that once graduated they will build on their role as a field biologist and conservation practitioner, working within a national or regional wildlife management and protected area systems organization, for NGOs or as independent practitioner. In addition, their knowledge and expertise will benefit their colleagues through informal peer-learning, skills transfer and the encouragement of critical thinking and debate.

7.3. The implementation of NAPs requires good coordination, to ensure that different departments, and sometimes different ministries, deliver on the activities outlined in the plans. A model which has proven effective in implementing NAPs is that used by the Range Wide Conservation Programme for Cheetah and African Wild Dogs (IUCN/SSC 2007a, b, 2012, 2015). Here, once the NAP is developed by the government and relevant stakeholders, the national wildlife authority agrees to appoint a National Coordinator. Such an individual is, ideally, based within the most relevant wildlife department within the country concerned, and coordinates NAP implementation by ensuring that relevant government departments, NGOs, and individuals move ahead in implementing the activities laid out in the plan. Coordinators are unlikely to be lion 'experts', and thus they will benefit from targeted training to give them the required skills and knowledge. Regular meetings, to allow reporting on progress in implementing the NAP, are essential to maintain momentum over the 5–10-year cycle of NAPs.

7.4. Wildlife poisoning in general, and the poisoning of Lions in particular, is a rapidly emerging threat across Africa, with serious ecological and human impacts. The impacts of a poisoning incident can be far reaching, not only involving the targeted species but also other mammalian and avian scavengers that eat either the poison, or succumb to secondary poisoning through eating other poisoned animals. The African Wildlife Poisoning Database has been formally maintained since 2017, although records date back to 1961. Although the intentional killing of wildlife by means of poisoning is very difficult to prevent, the impact of individual poisoning events in terms of the losses of wildlife can be reduced through rapid response and immediate action to prevent further losses and contamination of the environment. At the same time as securing and stabilizing a poisoning site, it is essential to collect appropriate evidence for possible prosecution. The EWT-Vultures for Africa Programme, in partnership with the Hawk Conservancy Trust, offer poisoning intervention training to rangers, law enforcement officials and other interested parties across Southern and East Africa. Since 2015 training has been provided to 1,500 people in nine countries across the Lion's range in Africa.

7.5. Law enforcement and intelligence training span a broad spectrum of different skills and disciplines. The planning and delivery of site-based law enforcement and intelligence training should form part of a broader strategic plan for protected area management. Any plan for the delivery of law enforcement and intelligence training therefore should include plans to train patrol managers and planners, analysts, community engagers, technicians as well as the rangers themselves. In a first step, a training needs analysis (TNA) should take place. What is subsequently taught will always link back to the findings from the TNA. Sites will always have their own specific sets of training requirements based on what is happening in their sites and the threats and challenges faced. It is important to consider that training forms part of an ongoing cycle to allow people reach their potential, and time must be allowed for selection, basic and continuation training.

8. Public awareness is all about communication, which needs to be tailored to the defined target audience. The seven steps of an effective communications program are described in a [Quick guide on communication, education and public aware-ness programmes for protected area practitioners](#) by the Convention on Biological Diversity and Rare (Ervin et al. 2010). We present some examples of technical awareness publications (usually aimed at practitioners or managers), educational publications for children or adults, and general public awareness publications.

9.1. There is significant difficulty in compiling and consequently interpreting lion numbers; the 2015 Red List Assessment, for example, did not use total Lion numbers for the assessment but rather inferred a decline based on time trend analysis of census data from selected reference areas (Bauer et al. 2015; Chapter 2). [CITES Decision 17.241](#) and [CMS Decision 12.67](#) contain amongst others the demand to the respective Secretariat to “support the development of relevant databases by African Lion Range States”. Using the idea of the African Elephant Database, and as a collaborative effort between government, researchers and NGOs, we aim to establish the African Lion Database with the long-term intention of expanding it to include e.g. the other focal species of the ACI. The vision is to establish a database as an instrument for lion conservation and management by facilitating the sharing of information between stakeholders. In order for the African Lion Database to be successful, it requires support from all Lion Range States as well as over-seeing parties.

9.2. [CITES Decision 17.241 j](#) and [CMS Decision 12.67 a, item ix](#) called for the creation of a web portal for the posting and sharing of information and voluntary guidance on the making of NDFs, and information regarding conservation and management of African lions, respectively. The [Lion Web Portal](#) is now online and is meant to be a dynamic and growing web page. The needs of the end users (Lion Range State wildlife managers and policy makers) should guide the information that is added to the web portal, which will be not only targeted to their needs, but also continuously supplemented through their own materials and products as they become available.

9.3. Networking can serve the exchange of information on activities, the exchange of experience and/or data, sharing of resources, and/or the development of common rules, standards etc. We have compiled a few examples of networks in a very broad sense, where the co-operation has been more or less formalised.

10.1. The conservation of wide-ranging species such as the Lion depends on international cooperation, even though implementation will ultimately have to be tailored to national policy and legislative environments. This can be managed through the development of regional strategies. The African Carnivores Initiative under CITES and CMS provides an important international framework to guide cooperation of range states in the cause of Lion conservation. However, it is crucial that sufficient financial and human resources are put in place, either within CITES or CMS, or through a separate international institution or programme, to support Range States in moving forward with implementing their conservation programmes. There are now already multiple transboundary conservation initiatives encompassing lion range with varying degrees of formal cooperation between neighbouring countries, from relatively informal joint management agreements to government-to-government treaties.

10.2. Funders can be broadly categorised between multi-lateral donor agencies (e.g. GEF, World Bank, UNDP, UNEP, EU), bi-lateral donor agencies (e.g. France, Germany, Norway, UK, USA), NGOs and zoos (e.g. African Wildlife Foundation, Lion Recovery Fund), and foundations and philanthropists (e.g. Band, Oak, Segré, Wild Cat, Wyss Foundations). The [CITES Notification to the Parties No. 2018/042](#) compiled examples of funding opportunities relevant to lion conservation. There already exist a vast number of conservation projects undertaken by not-for profit organisations in Africa, the majority working in East and Southern Africa. Although extremely varied, they can be categorized between projects tackling the illegal wildlife trade, facilitating coexistence between people and wildlife, and others (e.g. veterinary support, support for the training of rangers and other wildlife authority staff). We present a non-exhaustive list of examples of NGOs working on activities relevant to Lion conservation in Africa.

# Roadmap for the Conservation of the Leopard in Africa

Version 1.0 – September 2019



Compilation of available information on the status of the leopard *Panthera pardus* in Africa, review of threats and a proposal for a conservation programme in the frame of the joint CMS-CITES African Carnivores Initiative

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Compilation of available information on the status of the leopard *Panthera pardus* in Africa, review of threats and a proposal for a conservation programme in the frame of the joint CMS-CITES African Carnivores Initiative.

The designation of geographical entities in this document, and the presentation of the material, do not imply the expression of any opinion whatsoever on the part of IUCN or the organisations of the authors and editors of the document concerning the legal status of any country, territory, or area, or of its authorities, or concerning the delimitation of its frontiers or boundaries.

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Frontispiece © Patrick Meier: Leopard

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**Contents**

Impressum and acknowledgements .....2

Acronyms.....4

Country codes.....5

1 Introduction.....6

2 Conservation status of the leopard in Africa .....7

    2.1 Taxonomy .....7

    2.2 Habitat, ecology and behaviour .....7

        Habitat.....7

        Diet.....7

        Land tenure system.....7

        Reproduction and recruitment .....7

    2.3 Distribution.....8

        Transboundary (meta-) populations .....8

    2.4 Leopard population status, estimations and trends per conservation region.....11

        West Africa .....11

        Central Africa .....11

        East Africa .....11

        Southern Africa .....11

    2.5 CITES export quotas and trophy hunting .....14

        Trophy hunting.....14

        CITES export quotas.....15

        Non-detriment finding reports .....17

    2.6 IUCN Red List Assessment of *Panthera pardus*.....18

3 Threats, knowledge gaps and conservation challenges .....19

    3.1 Threats .....19

        Habitat loss and fragmentation .....19

        Prey depletion .....19

        Conflict .....19

        Illegal snaring & killing for trade .....20

    3.2 Knowledge gaps and conservation challenges .....20

4 Policy & conservation .....22

    4.1 Policy frameworks .....22

    4.2 International cooperation under the auspices of CITES and CMS .....22

    4.3 Surveys and monitoring .....23

5 Recommendations .....24

    5.1 Strategic planning for leopard conservation .....24

    5.2 Steps towards a leopard conservation programme.....25

    5.3 Preliminary Goal, Objectives and Actions for a leopard conservation programme in the frame of the ACI...26

    5.4 Conclusions .....28

References.....29

Appendix I - Leopard density estimations.....34

Appendix II - Distribution categories according to the IUCN Red List.....35

## Acronyms

|        |   |
|--------|---|
| ACI    | Joint CMS-CITES African Carnivores Initiative                                   |
| Cat SG | Cat Specialist Group  |
| CITES  | Convention on International Trade in Endangered Species of Wild Fauna and Flora |
| CMS    | Convention on the Conservation of Migratory Species of Wild Animals             |
| CoP    | Conference of the Parties   |
| IUCN   | International Union for Conservation of Nature                                  |
| NAP    | National Action Plan  |
| NDF    | Non-Detriment Finding   |
| NR     | National Reserve  |
| NP     | National Park   |
| PA     | Protected Area  |
| RCS    | Regional Conservation Strategy  |
| SSC    | Species Survival Commission   |

**Country Codes** (in accordance with [ISO 3166-1 alpha 3](#))

| <b>ISO 3166-1 alpha 3</b> | <b>English short name</b>              | <b>French short name</b>              |
|---------------------------|--|---------------------------------------|
| AGO                       | Angola                                 | Angola (l')                           |
| BDI                       | Burundi                                | Burundi (le)                          |
| BEN                       | Benin                                  | Bénin (le)                            |
| BFA                       | Burkina Faso                           | Burkina Faso (le)                     |
| BWA                       | Botswana                               | Botswana (le)                         |
| CAF                       | Central African Republic               | République centrafricaine (la)        |
| CIV                       | Côte d'Ivoire                          | Côte d'Ivoire (la)                    |
| CMR                       | Cameroon                               | Cameroun (le)                         |
| COD                       | Congo (the Democratic Republic of the) | Congo (la République démocratique du) |
| COG                       | Congo (the)                            | Congo (le)                            |
| DJI                       | Djibouti                               | Djibouti                              |
| DZA                       | Algeria                                | Algérie (l')                          |
| EGY                       | Egypt                                  | Égypte (l')                           |
| ERI                       | Eritrea                                | Érythrée (l')                         |
| ETH                       | Ethiopia                               | Éthiopie (l')                         |
| GAB                       | Gabon                                  | Gabon (le)                            |
| GHA                       | Ghana                                  | Ghana (le)                            |
| GIN                       | Guinea                                 | Guinée (la)                           |
| GMB                       | Gambia (the)                           | Gambie (la)                           |
| GNB                       | Guinea-Bissau                          | Guinée-Bissau (la)                    |
| GNQ                       | Equatorial Guinea                      | Guinée équatoriale (la)               |
| KEN                       | Kenya                                  | Kenya (le)                            |
| LBR                       | Liberia                                | Libéria (le)                          |
| LBY                       | Libya                                  | Libye (la)                            |
| LSO                       | Lesotho                                | Lesotho (le)                          |
| MAR                       | Morocco                                | Maroc (le)                            |
| MLI                       | Mali                                   | Mali (le)                             |
| MOZ                       | Mozambique                             | Mozambique (le)                       |
| MRT                       | Mauritania                             | Mauritanie (la)                       |
| MWI                       | Malawi                                 | Malawi (le)                           |
| NAM                       | Namibia                                | Namibie (la)                          |
| NER                       | Niger                                  | Niger (le)                            |
| NGA                       | Nigeria                                | Nigéria (le)                          |
| RWA                       | Rwanda                                 | Rwanda (le)                           |
| SDN                       | Sudan (the)                            | Soudan (le)                           |
| SEN                       | Senegal                                | Sénégal (le)                          |
| SLE                       | Sierra Leone                           | Sierra Leone (la)                     |
| SOM                       | Somalia                                | Somalie (la)                          |
| SSD                       | South Sudan                            | Soudan du Sud (le)                    |
| SWZ                       | Eswatini (Swaziland)                   | Eswatini (l') (Swaziland)             |
| TCD                       | Chad                                   | Tchad (le)                            |
| TGO                       | Togo                                   | Togo (le)                             |
| TUN                       | Tunisia                                | Tunisie (la)                          |
| TZA                       | Tanzania, United Republic of           | Tanzanie, République-Unie de          |
| UGA                       | Uganda                                 | Ouganda (l')                          |
| ZAF                       | South Africa                           | Afrique du Sud (l')                   |
| ZMB                       | Zambia                                 | Zambie (la)                           |
| ZWE                       | Zimbabwe                               | Zimbabwe (le)                         |

# 1 Introduction

As a top predator, the leopard (*Panthera pardus*) plays an important role in its ecosystems and substantially influences their structure and function. The leopard is a flagship species for conservation of prey populations and habitats, especially in the regions where it is the largest carnivore of the system. No cat species has a wider distribution than the leopard, which occurs from the southernmost areas of the African continent to the Russian Far East. While some of the Asiatic subspecies are threatened – e.g. the Far Eastern leopard or Amur leopard *P. p. orientalis* was called “the rarest of all large felids” (Kelly et al. 2013) – the African subspecies *P. p. pardus* is generally regarded as being in a (very) good condition. This general view is probably due to the African leopards wide distribution and broad ecological niche. However, in terms of scientific research and conservation funding, this apparent success may have led to a neglect of the leopard in general as well as on the African continent when compared with other large cats (Breitenmoser 2015).

According to the latest assessment for the IUCN Red List of Threatened Species (henceforth IUCN Red List) by Stein et al. (2016) “there are few reliable data on changes in the Leopard (*P. p. pardus*) status (distribution or abundance) throughout Africa over the last three generations [22.3 yrs]”. Recent research and conservation projects had most often local or national scale. The last abundance survey for Sub-Saharan Africa was performed by Martin & de Meulenaer (1988). The model used by Martin & de Meulenaer (1988) has been widely criticised for methodological reasons and the results are usually regarded as impossible overestimates (e.g. Nowell & Jackson 1996). Despite this criticism, they are still sometimes used where more recent numbers do not exist on a nation-wide scale as it “still represents the only practical and quantitative attempt to date to estimate leopard number in Sub-Saharan Africa. [...] To date no attempt has been made to improve the model proposed by Martin and de Meulenaer” (Annex 1 AC30 Doc. 15, CITES 2018a). Even in some instances where more recent attempts at nation-wide estimates were made, the knowledge on abundance may not be much better as indicated by the example of South Africa where estimates “vary widely from 2,185 to 23,400 leopards [...]. None

of these estimates are based on rigorous population counts at regional scales, and their confidence intervals are so wide as to make them meaningless” (Annex 3 AC30 Doc. 15, CITES 2018a). Moreover in many areas, there are gaps in our understanding of leopard population trends, distribution and the impacts of threats, which impedes a robust status assessment and consequently the development of effective conservation measures for the species.

Under the CMS-CITES Joint Work Programme 2015–2020, the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and the Convention on the Conservation of Migratory Species of Wild Animals (CMS) launched the joint [African Carnivore Initiative](#) (ACI) in 2017, which also covers the leopard for the African part of its range. The CMS Secretariat had commissioned the IUCN SSC Cat Specialist Group to draft a *Roadmap for the Conservation of the Leopard in Africa* as an input document to the 1<sup>st</sup> Meeting of the Range States for the ACI (ACI1) on 5–8 November 2018 in Bonn, Germany. At the ACI1, the Range States agreed “to support the further development by IUCN of a Roadmap for the Conservation of the Leopard in Africa” (CMS & CITES 2018), which should eventually be submitted to CMS CoP13 in 2020. Moreover, the delegates invited the 18<sup>th</sup> Conference of Parties to CITES and the 13<sup>th</sup> Conference of Parties to CMS to task their respective Secretariats with the development of a Joint Programme of Work for the African Carnivores Initiative (CMS & CITES 2018). As such a Programme is still lacking as of September 2019, it is hard to say how the ACI will support the conservation of the focal species in practice, but it is nevertheless expected to become a focal point for the implementation of resolutions and decisions under CITES and CMS on leopards, lions *Panthera leo*, cheetahs *Acinonyx jubatus* and wild dogs *Lycan pictus* in Africa. The *Roadmap for the Conservation of the Leopard in Africa* shall provide the background for the development of transboundary Regional Conservation Strategies and subsequently National Action Plans for the implementation of conservation actions for the leopard in Africa under the auspice of the CMS and CITES within in the frame of the ACI.



## 2 Conservation status of the leopard in Africa

### 2.1 Taxonomy

The taxonomy of the leopard was recently reviewed by the IUCN SSC Cat Specialist Group. Based on current research and an assessment of an expert task force, all leopards inhabiting Africa

belong to the subspecies *P. p. pardus* (Kitchener et al. 2017). However, the taxonomic status of the African subspecies needs to be further investigated.

### 2.2 Habitat, ecology and behaviour

#### Habitat

The leopard is believed to be highly adaptable and shows a certain tolerance for anthropogenic impacts e.g. also appearing close to major towns such as Johannesburg (Jorge 2012, Stein & Hayssen 2013, Kuhn 2014, Jacobson et al. 2016). In Africa, the leopard lives in woodland, grassland, dry scrub, savannah and forest as well as mountain areas, coastal scrub, swampy areas, semi-desert and deserts (Stein et al. 2016). In sub-Saharan Africa the leopard has been recorded up to 5,600 m on Mt. Kilimanjaro, Tanzania (Guggisberg 1975).

#### Diet

Leopards are visual and ambush hunters (Sunquist & Sunquist 2002). The leopard is also an excellent climber and prey is often dragged up into trees for eating and caching (mainly where competing carnivores are numerous; Hunter & Barrett 2011).

The leopard has a variable diet and is able to adapt to changes in prey availability. Its diet is influenced by many factors such as prey density, prey composition and by other predators, but is also affected by environmental factors and anthropogenic pressure (Balme et al. 2007, Henschel et al. 2011; Chapter 3). Leopards can kill prey up to 2 or 3 times their own weight, but they have a preference for medium sized ungulates (15–80 kg; Henschel et al. 2005, Henschel 2008, Hunter & Barrett 2011). Leopards prey on a variety of largely mammalian prey from large ungulates such as elands to small species such as rock hyraxes and arthropods (Balme et al. 2007, Hunter & Barrett 2011, Stein et al. 2016). In sub-Saharan Africa, 92 different prey species were documented (Bailey 1993).

#### Land tenure system

Leopards are solitary (Boast 2014). They use scent or scratch marks and vocalisations to communicate and to mark territories (Stein & Hayssen 2013). Across much of their range, leopards are mainly active at night with activity peaks at dawn and dusk. However, their activity pattern can vary depending

on prey availability, competing predator presence, temperature and human disturbance (Spalton & Al Hikmani 2014). In savannah and woodland areas for example, leopards were more active between sunset and sunrise, but populations in undisturbed rainforest in Gabon and in remote areas in Botswana were largely diurnal. Forest leopards seem to follow the activity patterns of their main prey species (Henschel 2008, Steinmetz et al. 2013).

Leopards are polygynous and male home ranges generally overlap with those of several females (Caro & Riggio 2014). They can be transboundary in border regions (Hunter & Barrett 2011, CMS 2017). Home range sizes of leopards are determined by resource availability, presence of other carnivores, intra-specific density and human pressures. Thus, the size of leopard home ranges is highly variable: In woodland, savannah and rainforest areas mean home ranges for females are 9–27 km<sup>2</sup> and 52–136 km<sup>2</sup> for males. In arid habitats, home ranges are larger, reaching 188–2,750 km<sup>2</sup> (Hunter & Barrett 2011). Consequently, leopard density in Africa varies widely, from 0.1–12 individuals per 100 km<sup>2</sup> (Appendix I).

#### Reproduction and recruitment

In some areas of Africa, leopard births can occur throughout the year. In other areas, birthing peaks occur towards the beginning of the wet season, which also coincides with the birth season of the leopard's main prey species (Sunquist & Sunquist 2002, Stein & Hayssen 2013). Oestrus lasts about 7–14 days, the oestrus cycle for around 46 days and gestation for 90–106 days (Sunquist & Sunquist 2002, Hunter & Barrett 2011). Females reproduce for the first time with 30–36 months and males with 42–48 months. A 16-year old female was recorded giving birth in the Sabi Sand Game Reserve, South Africa. The inter-birth interval averages 16–25 months. Litter size is 1–4 cubs (Hunter & Barrett 2011, Balme et al. 2013a, Stein & Hayssen 2013). Cub mortality is quite high and varies in the first year between 50% and 90% (Balme et al. 2013a). Leopards reach independence at 12–18 months (Sunquist & Sunquist 2002). Subadult male leopards (2–4 years) are mandatory dispersers and can cover distances over 200 km, while subadult females settle more often close to their parental home ranges (CMS 2017).

## 2.3 Distribution

The leopard has a wide distribution with an extant range of 6,613,000 km<sup>2</sup> across Africa (Appendix II; Jacobson et al. 2016). The species is extant in 40, possibly extinct in 2, extinct in 4 countries and with presence uncertain in 1 country of the continent (Table 2.4.1; Jacobson et al. 2016, Stein et al. 2016). The historic distribution of the leopard included all of Sub-Saharan Africa, except the skeleton coast of Namibia (Jacobson et al. 2016; Fig. 2.3.1). Leopards have vanished from 48–67% of their historic range across Africa (Jacobson et al. 2016). The range loss was most prominent in the northern (Sahara and Sahel zone) and southern (South Africa) parts of the continent. Stein et al. (2016) estimate that even in the leopard's stronghold – southern Africa – the species suffered a range loss of approximately 21% in the last three generations (22.3 yrs). The current distribution of the leopard across Africa is not fully understood, but the species still seems to be present in many areas (Fig. 2.3.1) although with an increasingly fragmented distribution (Boast 2014, Jacobson et al. 2016, Stein et al. 2016).

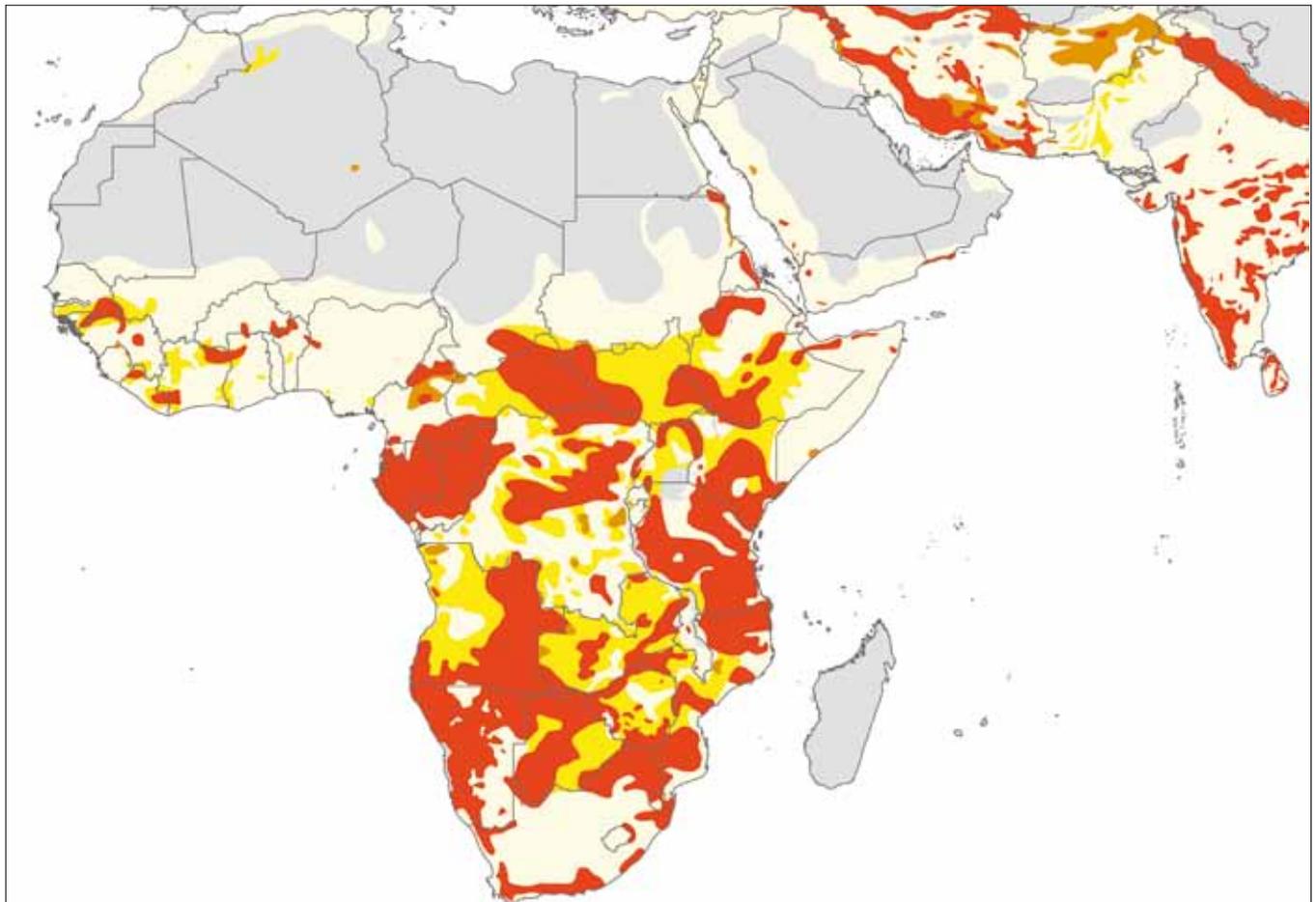
Although all populations on the African continent consist of the same subspecies, we divide the African range into four separate regions. We use the same distinction made for the well-established

Regional Conservation Strategies for the lion (IUCN SSC Cat Specialist Group 2006a, b), and cheetah & wild dog (IUCN SSC 2007, 2015): West, Central, East and southern Africa (Table 2.3.1, Fig. 2.3.2). In North Africa, the leopard is extinct in Mauretania, Morocco and Tunisia, and the populations in Algeria and Egypt are doubtful or very small (Stein et al. 2016). For the purpose of this report, we integrated these countries, where the leopard remains in very small numbers or was historically present, into East Africa (Egypt) and West Africa (Algeria, Mauritania, Morocco, Tunisia).

### Transboundary (meta-) populations

Many important leopard populations are transboundary and have the form of metapopulations. Individuals are cyclically and predictably crossing one or more national jurisdictional boundaries (CMS 2017; Table 2.3.2), and dispersing subadult animals, which are important for maintaining the demographic and genetic integrity of the populations, need to be able to cross international borders.

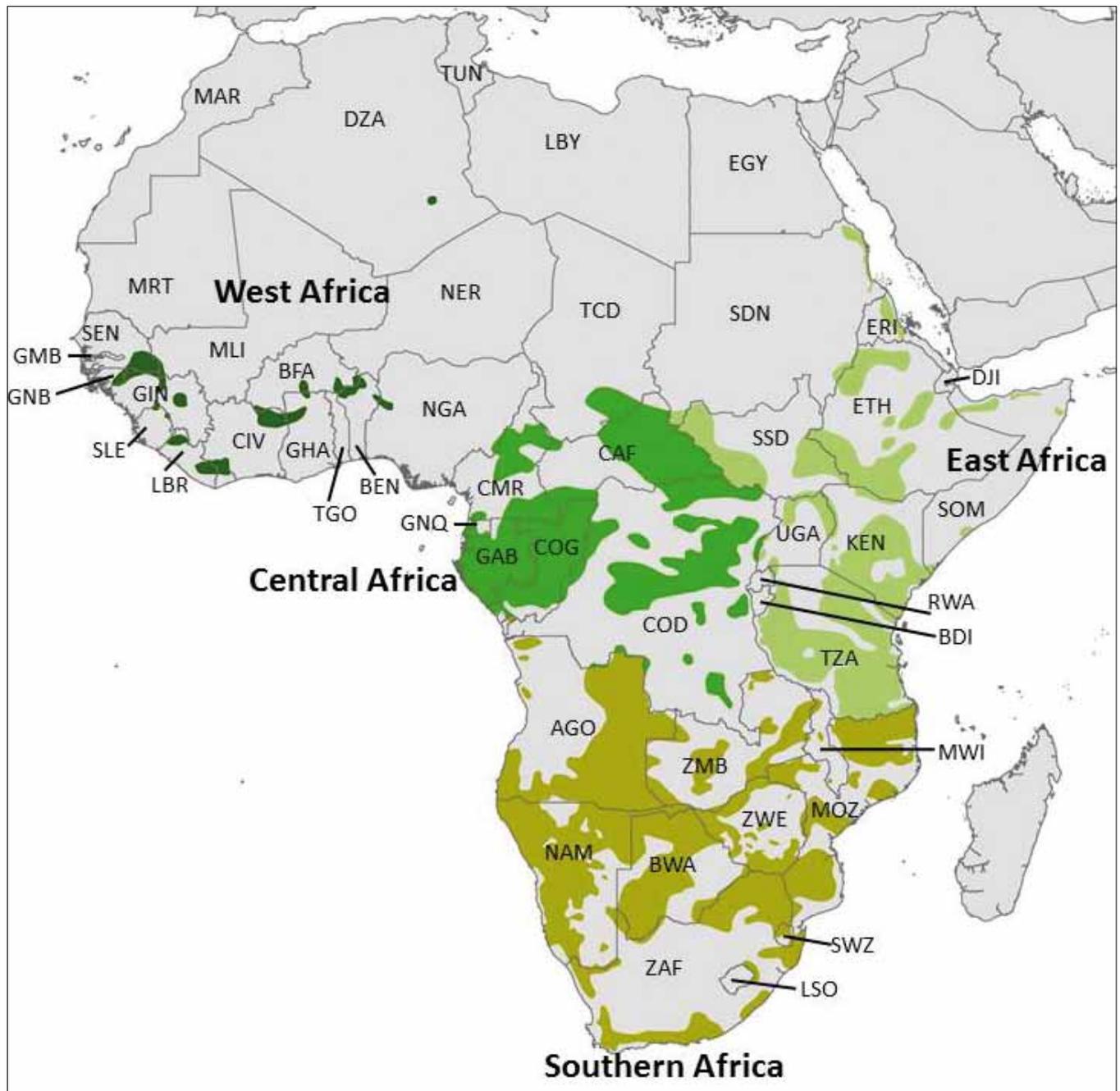
08



**Fig. 2.3.1.** Leopard distribution. Red = extant, orange = possibly extant, dark yellow = possibly extinct, light yellow = historical, extinct (Appendix II; Jacobson et al. 2016). According to Gebretensae (2018), Ethiopian Wildlife Conservation Authority, the range indicated as possibly extinct in Ethiopia should, based on confirmed leopard records, be extant range.

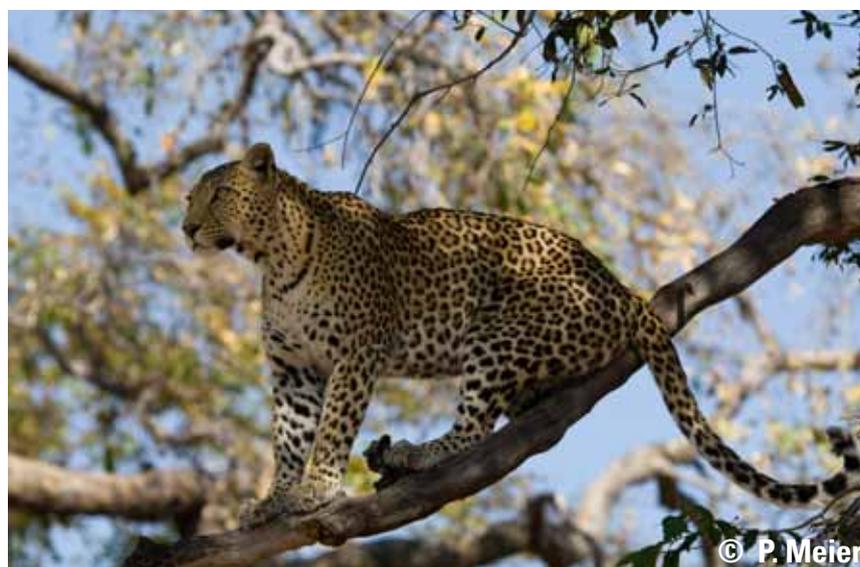
**Table 2.3.1.** Proposed conservation regions for Africa and countries included in each conservation region.

| Conservation region | Countries included  |
|---------------------|---|
| West Africa         | Algeria, Benin, Burkina Faso, Cote d'Ivoire, Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Mauritania, Morocco, Niger, Nigeria, Senegal, Sierra Leone, Togo, Tunisia |
| Central Africa      | Cameroon, Central African Republic, Chad, Republic of the Congo, Democratic Republic of the Congo, Equatorial Guinea, Gabon, Nigeria  |
| East Africa         | Burundi, Djibouti, Egypt, Eritrea, Ethiopia, Kenya, Rwanda, Somalia, South Sudan, Sudan, Tanzania, Uganda   |
| Southern Africa     | Angola, Botswana, Lesotho, Malawi, Mozambique, Namibia, South Africa, Eswatini (Swaziland), Zambia, Zimbabwe  |

**Fig. 2.3.2.** Proposed conservation regions for Africa. Extant and possibly extant leopard range (Jacobson et al. 2016; Fig. 2.1.1) combined. According Gebretensae (2018), Ethiopian Wildlife Conservation Authority, the extant range of the leopard is larger than indicated by Jacobson et al. 2016 (see caption Fig. 2.3.1).

**Table 2.3.2.** Transboundary leopard (meta) populations, countries sharing the transboundary leopard populations (CMS 2017) and patch name(s) according to Jacobson et al. (2016).

| <b>Countries</b>   | <b>Patch names</b>                                     |
|--|--|
| Guinea/Guinea-Bissau/Mali/Senegal  | Nikolo Koba and Guinea                                 |
| Liberia/Sierra Leone   | Foya, Gola and forests, northern Liberia               |
| Ivory Coast/Liberia  | Tai forest   |
| Burkina Faso/Ivory Coast/Ghana   | Comoe and Mole   |
| Ghana/Burkina Faso   | northern Ghana and southern Burkina Faso; Kabore-Tambi |
| Benin/Burkina Faso/Niger   | W-Arly-Pendjari  |
| Benin/Nigeria  | Kainji and Trois Rivieres                              |
| Cameroon/Nigeria/Chad  | Benoue ecosystem                                       |
| Cameroon/Equatorial Guinea   | Camp Ma'an   |
| Angola/CAR/Cameroon/DRC/Congo/Gabon/Equatorial Guinea                          | West Congo Basin                                       |
| CAR/DRC/Sudan/South Sudan/Chad   | Eastern Central African Republic                       |
| Egypt/Sudan  | Red Sea coast  |
| Ethiopia/Sudan   | northern Ethiopia                                      |
| Djibouti/Eritrea/Ethiopia  | Mousa Ali Mountains                                    |
| Ethiopia/Kenya/South Sudan   | Boma-Gambella, southern Ethiopia                       |
| Ethiopia/Somalia   | Gaan Libaax and eastern Ethiopia                       |
| Kenya/South Sudan/Uganda   | northern and eastern Uganda                            |
| DRC/Uganda   | greater Virunga  |
| Rwanda/Tanzania/Uganda   | Akagera, Rumanyika and Lake Mburo                      |
| Burundi/Rwanda   | Nyungwe  |
| Kenya/Mozambique/Somalia/Tanzania  | Kenya, Tanzania, northern Mozambique                   |
| Angola/Botswana/DRC/Mozambique/Malawi/Namibia/South Africa/<br>Zambia/Zimbabwe | central Southern Africa & coastal Namib                |
| Mozambique/Zimbabwe  | Marromeu and central Mozambique                        |
| Botswana/Zimbabwe  | Matopos and south-western Zimbabwe                     |
| Botswana/Mozambique/South Africa/Eswatini (Swaziland)/Zimbabwe                 | Kruger and eastern Southern Africa                     |
| Lesotho/South Africa   | Drakensberg Mountains                                  |



## 2.4 Leopard population status, estimations and trends per conservation region

The last Africa-wide leopard population estimate dates back to a model from 1988, developed by Martin & de Meulenaer (1988), who estimated 714,000 leopards across the whole of Africa. However, this estimate was subsequently challenged by several researchers to be too simplistic and a high overestimation (Jackson 1989, Norton 1990, Jenny 1996, Nowell & Jackson 1996, Henschel 2008, Balme et al. 2010b). In fact, “few reliable data on changes in the leopard status throughout Africa exists although there is compelling evidence that subpopulations have likely declined considerably” (Stein et al. 2016).

### West Africa

The extant range of the leopard in West Africa was estimated at 196,000 km<sup>2</sup> (Jacobson et al. 2016, Table 2.4.1). The leopard has become very rare throughout West Africa mainly due to a lack of prey (i.e. due to bushmeat trade) and retaliation killing due to livestock predation. The species lost 86–95% of its historic range in West Africa (without Algeria, Mauritania, Morocco and Tunisia; Jacobson et al. 2016). It has completely disappeared from parts of the Western Sahel and from most of the West African coastal belt. Leopards are now restricted to a few PAs from Senegal (confirmed records in Niokola-Koba NP) in the west to western Nigeria in the east. Leopards also still persist at low densities in W-Arly-Pendjari Complex, a network of Protected Areas (PAs) expanding through Burkina Faso, Benin and Niger. It is unlikely that resident leopard populations exist outside PAs (Jacobson et al. 2016).

The presence of the leopard in Algeria is uncertain (Stein et al. 2016). The last leopard record – a genetically identified scat sample – is from the Ahaggar Massif in 2005, but more survey effort is needed to confirm the presence of the species. The leopard may also persist in the western Saharan Atlas Mountains extending into Morocco. An unconfirmed report from 2007 comes from near Figuig, Morocco (Jacobson et al. 2016).

### Central Africa

Leopards are considered extant in all countries in this conservation region (Table 2.4.1). The extant leopard range in Central

Africa was estimated at 1,801,100 km<sup>2</sup> (Jacobson et al. 2016<sup>1</sup>). Leopards are still widely distributed across this region, but with large expanses where the species is absent or unconfirmed. The species has lost 45–66% of its historic range across Central Africa (incl. Sudan and South Sudan; Jacobson et al. 2016). Leopard range was highly reduced in areas of increased human influence and easily accessible areas prone to illegal hunting and bushmeat trade (Jacobson et al. 2016). Close to human areas, large wildlife species are virtually gone due to heavy hunting pressure (P. Henschel, pers. comm.).

### East Africa

Leopards are considered extant in all countries in this conservation region (Table 2.4.1). The extant leopard range in East Africa was estimated at 1,743,700 km<sup>2</sup> (Jacobson et al. 2016<sup>2</sup>). The species lost 45–60% of its historic range in East Africa (without, South Sudan and Sudan; Jacobson et al. 2016). Leopard distribution has been notably reduced in Somalia, Kenya, Ethiopia and central Tanzania (Jacobson et al. 2016).

### Southern Africa

The extant leopard range in Southern Africa was estimated at 2,872,200 km<sup>2</sup> (Jacobson et al. 2016, Table 2.4.1). Nonetheless “also in southern Africa, the so called stronghold of the leopard there is no evidence that leopard populations have remained stable” (Stein et al. 2016). The species lost 28–51% of its historic range in southern Africa (Jacobson et al. 2016). However in the south and south-east of Namibia, presence records captured recently have shown a distribution throughout these areas beyond the distribution indicated by Stein et al. (2016; Richmond-Coggan 2019). Leopards are considered to be declining in Angola, Zambia, Zimbabwe, South Africa and Mozambique with leopards disappearing from areas of increased human development and areas of intensive human-leopard conflict. However, these countries are thought to have healthy populations outside of human-dominated areas (Jacobson et al. 2016). In Namibia, the majority of the population resides in private farmland where increases in leopard densities have occurred (Richmond-Coggan 2019).

<sup>1</sup> This regional total is different from the one given in Jacobson et al. (2016) due to slight differences in the distinction of regions: extant ranges for South Sudan and Sudan given by Jacobson et al. (2016) were subtracted.

<sup>2</sup> This regional total is different from the one given in Jacobson et al. (2016) due to slight differences in the distinction of regions: extant ranges for Egypt, South Sudan and Sudan given by Jacobson et al. (2016) were added.

**Table 2.4.1.** Information on the status of the leopard per range country. For each leopard range country the amount of extant range, percentage of extant range covered by Protected Areas (PAs), country wide population estimates (pop. est.), status of the leopard as described in Jacobson et al. (2016) and Stein et al. (2016), national Red List status, the presence code used by the IUCN Red List according to Stein et al. (2016)\*, if the country is party of the Convention on the Conservation of Migratory Species of Wild Animals (CMS) or the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and if there is a National Action Plan (NAP) for the leopard in place, is displayed.

| Country               | Extant range km <sup>2</sup> | PA cov. % | Status <sup>1</sup> and Pop. est. [national Red List status] | IUCN Pres. Code <sup>2</sup> | CMS | CITES | NAP              |
|-----------------------|------------------------------|-----------|--|------------------------------|-----|-------|------------------|
| <b>West Africa</b>    |                              |           |  |                              |     |       |                  |
| DZA                   | 3,600 <sup>3</sup>           | 0         | Presence uncertain   | Pres. uncer.                 | Yes | Yes   | No               |
| BEN                   | 16,300                       | 31        | Rare   | Extant                       | Yes | Yes   | No               |
| BFA                   | 19,000                       | 45        | Absent from large parts                                      | Extant                       | Yes | Yes   | No               |
| GMB                   | 800 <sup>4</sup>             | 2.6       | Possibly only small fragmented populations                   | Poss. extinct                | Yes | Yes   | No               |
| GHA                   | 14,700                       | 28        | Absent from large parts                                      | Extant                       | Yes | Yes   | No               |
| GIN                   | 28,700                       | 3.1       | Absent from large parts                                      | Extant                       | Yes | Yes   | Yes <sup>5</sup> |
| GNB                   | 7,000                        | 0         | Rare   | Extant                       | Yes | Yes   | No               |
| LBR                   | 23,000                       | 4.3       |  | Extant                       | Yes | Yes   | No               |
| MLI                   | 6,000                        | 0         | Nearly extinct   | Extant                       | Yes | Yes   | No               |
| MRT                   |                              |           |  | Extinct                      | Yes | Yes   | No               |
| MAR                   | 3,000                        |           |  | Extinct                      | Yes | Yes   | No               |
| NER                   | 500                          | 99.5      | Nearly extinct   | Extant                       | Yes | Yes   | No               |
| NGA                   | 11,500                       | 68.4      |  | Extant                       | Yes | Yes   | No               |
| SEN                   | 29,400                       | 25.2      | Absent from large parts                                      | Extant                       | Yes | Yes   | No               |
| SLE                   | 500                          | 63        | Absent from large parts                                      | Extant                       | No  | Yes   | No               |
| TUN                   |                              |           |  | Extinct                      | Yes | Yes   | No               |
| TGO                   | 300                          | 0         |  | Extinct                      | Yes | Yes   | No               |
| <b>Central Africa</b> |                              |           |  |                              |     |       |                  |
| CMR                   | 132,700                      | 21.9      | Distribution reduced and fragmented                          | Extant                       | Yes | Yes   | No               |
| CAF                   | 369,200                      | 19.2      | Possibly present in 85%                                      | Extant                       | No  | Yes   | No               |
| TCO                   | 68,700                       | 39.3      | Presence and status largely unknown                          | Extant                       | Yes | Yes   | No               |
| COG                   | 310,000                      | 11.7      | Likely widespread  | Extant                       | Yes | Yes   | No               |
| COD                   | 657,600                      | 15.6      | Likely widespread, extinct or poss. extinct in large parts   | Extant                       | Yes | Yes   | No               |
| GNQ                   | 12,800                       | 22        | Absent from almost half of the country                       | Extant                       | Yes | Yes   | No               |
| GAB                   | 250,000                      | 13.3      | Likely still widely distributed                              | Extant                       | Yes | Yes   | No               |
| CIV                   | 39,200                       | 41.5      | Poss. only persist in PAs                                    | Extant                       | Yes | Yes   | No               |
| <b>East Africa</b>    |                              |           |  |                              |     |       |                  |
| BDI                   | 900 <sup>3</sup>             | 54.9      |  | Extant                       | Yes | Yes   | No               |
| DJI                   | 1,600                        | 0         | Poss. present in small isolated areas                        | Extant                       | Yes | Yes   | No               |
| EGY                   | 5,800                        | 0         | Maybe only small population left                             | Extant                       | Yes | Yes   | No               |
| ERI                   | 22,600                       | 7.7       | Possibly still persist in a few areas                        | Extant                       | Yes | Yes   | No               |
| ETH                   | 346,900                      | 10.2      | Few records [LC]   | Extant                       | Yes | Yes   | No               |
| KEN                   | 312,900                      | 12.6      | Present only in the south and centre of the country [EN]     | Extant                       | Yes | Yes   | No               |
| RWA                   | 2,200                        | 41.4      | Poss. extinct across the majority                            | Extant                       | Yes | Yes   | No               |
| SOM                   | 33,700                       | 0         | Status unclear   | Extant                       | Yes | Yes   | No               |

| Country                | Extant range km <sup>2</sup> | PA cov. % | Status <sup>1</sup> and Pop. est. [national Red List status]                       | IUCN Pres. Code <sup>2</sup> | CMS | CITES | NAP              |
|------------------------|------------------------------|-----------|--|------------------------------|-----|-------|------------------|
| SSD                    | 249,800                      | 18.8      | Poss. extinct across most of the country   | Extant                       | No  | Yes   | No               |
| SDN                    | 31,000                       | 25.7      | Largely absent from the country  | Extant                       | No  | Yes   | No               |
| TZA                    | 672,100                      | 23.9      | Extant across the majority of the country<br>19,673 <sup>6</sup>                   | Extant                       | Yes | Yes   | Yes <sup>7</sup> |
| UGA                    | 65,100                       | 27.3      | Extinct or possibly extinct in large parts [VU]<br>150–200 <sup>8</sup>            | Extant                       | Yes | Yes   | Yes <sup>9</sup> |
| <b>Southern Africa</b> |                              |           |  |                              |     |       |                  |
| AGO                    | 678,600                      | 8.9       | Widespread but not abundant <sup>10</sup>  | Extant                       | Yes | Yes   | No               |
| BWA                    | 367,200                      | 29.3      | Widely distributed, continuous pop. in north and west<br>4,404–6,830 <sup>11</sup> | Extant                       | No  | Yes   | No               |
| SWZ                    | 10,100                       | 4.5       | Suspected to be transient indiv. [VU]  | Extant                       | Yes | Yes   | No               |
| LSO                    | 100                          | 1.1       | [VU]   | Poss. extinct                | No  | Yes   | No               |
| MWI                    | 11,100                       | 69.7      | Largely absent   | Extant                       | No  | Yes   | No               |
| MOZ                    | 457,000                      | 14.6      | 28,608 <sup>12</sup><br>min. 6,400 <sup>12</sup>                                   | Extant                       | Yes | Yes   | No               |
|                        |                              |           | Widespread also outside of PAs <sup>13</sup>                                       |                              |     |       |                  |
| NAM                    | 568,900                      | 18.8      | 5,469–10,610 <sup>14</sup><br>13,356–22,706 <sup>13</sup><br>11,733 <sup>15</sup>  | Extant                       | No  | Yes   | No               |
|                        |                              |           | In many PAs, absent from large parts [VU]  |                              |     |       |                  |
| ZAF                    | 401,300                      | 8.4       | 2,185–6,750 <sup>16</sup><br>2,813–23,400 <sup>17</sup>                            | Extant                       | Yes | Yes   | No               |
| ZMB                    | 218,000                      | 24.1      | Extinct or possibly extinct in large parts<br>2,000–4,000 <sup>18</sup>            | Extant                       | No  | Yes   | No               |
| ZME                    | 160,000                      | 16.7      | Mainly occurring in PAs  | Extant                       | Yes | Yes   | No               |

<sup>\*</sup>See Appendix II<sup>1</sup>Jacobson et al. 2016 and Stein et al. 2016<sup>2</sup>Stein et al. 2016<sup>3</sup>Possibly extant range<sup>4</sup>Possibly extinct<sup>5</sup>Conservation strategy for large carnivores (including the leopard; DNDBAP no date)<sup>6</sup>[Annex 4](#) AC30 Doc. 15, CITES 2018a<sup>7</sup>TAWIRI 2009<sup>8</sup>UWA 2012<sup>9</sup>Strategic Action Plan for large carnivore conservation in Uganda (including the leopard; UWA 2012)<sup>10</sup>MINUA 2006<sup>11</sup>Jacobson et al. 2016<sup>12</sup>[Annex 1](#) AC30 Doc. 15, CITES 2018a<sup>13</sup>Stein et al. 2012<sup>14</sup>Hanssen & Stander 2004<sup>15</sup>Richmond-Coggan 2019<sup>16</sup>Daly et al. 2005 (in 10 core areas)<sup>17</sup>[Annex 3](#) AC30 Doc. 15, CITES 2018a<sup>18</sup>[Annex 6](#) AC30 Doc. 15, CITES 2018a

## 2.5 CITES export quotas and trophy hunting

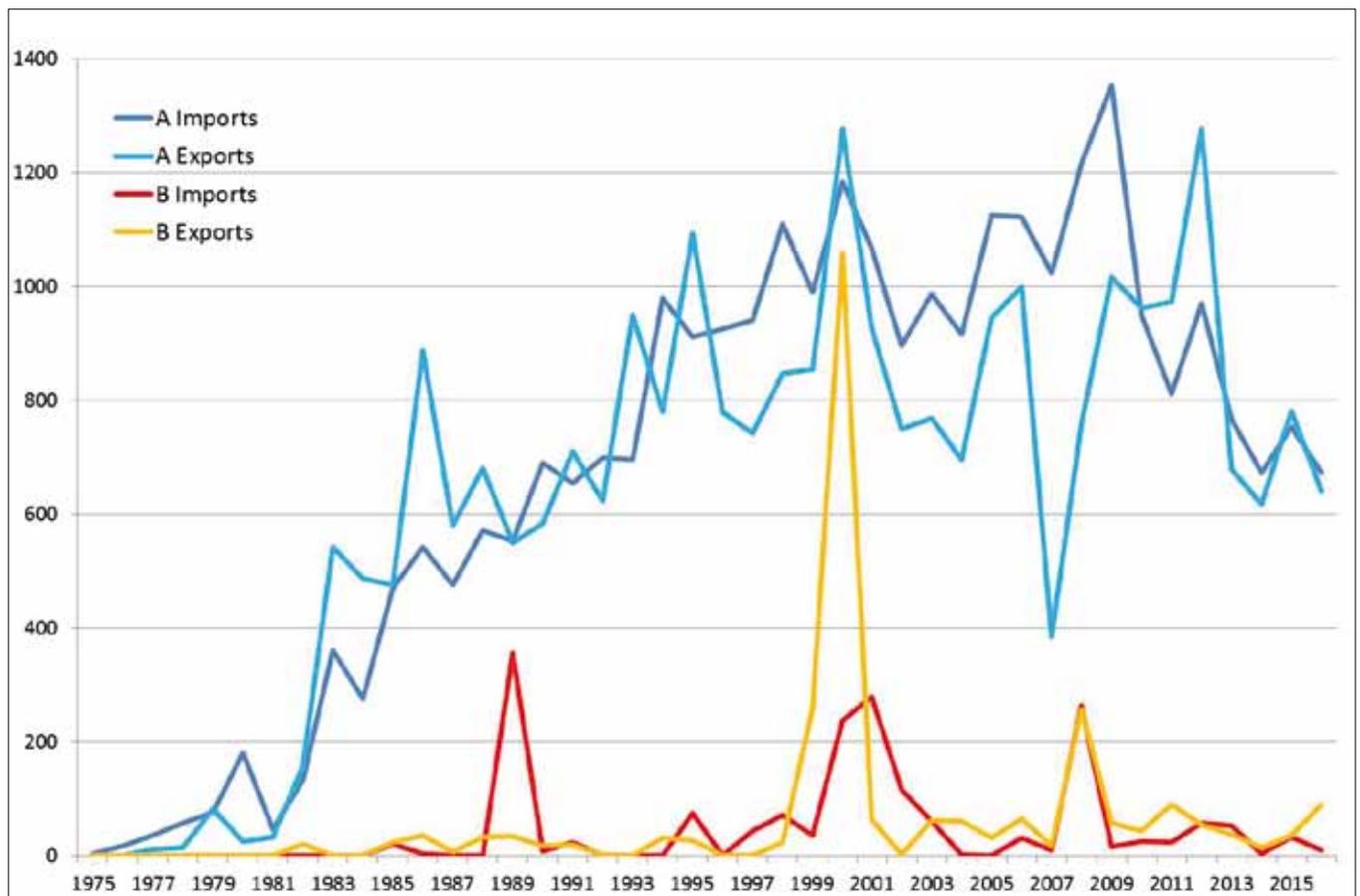
'Non-consumptive use' of leopards is e.g. wildlife viewing. Legal 'consumptive use' takes place through (trophy) hunting and permitted killing of damage-causing leopards, illegal through poaching for the wildlife trade or retaliation killing. There is very little information available on the (legal) consumptive use of leopards other than trophy hunting. The leopard is included in the provisional list of animal species used in traditional medicine compiled by the CITES Animal Committee (CITES 2002a). Skins, flesh, bones, fat and hearts of leopards are used for medicinal (or ceremonial) purposes (CITES 2002a). In some countries, the meat of the leopard is consumed (Olupot et al. 2009). The by far largest use of leopard skins for ceremonial purpose is known from the Nazareth Baptist Shembe Church in southern Africa (Balme et al. 2013b, Lindsey et al. 2015; Chapter 3).

Figure 2.5.1 shows trade in leopard items (reported imports and exports in the CITES Trade Database) from the countries with CITES export quotas (see below). In Figure 2.5.1, we grouped bodies, live animals, skins, skulls and trophies into category A,

for which one leopard can only provide one item per term. Category B consists of bones, claws and teeth, for which one leopard may provide several items per term. Reported trade for Category A items generally increased from 1975 to about 2010 with some fluctuations and appear to have decreased since then. Imports and exports for category B (bones, claws and teeth) have generally been very low but with some significant peaks in certain years (Fig. 2.5.1).

### Trophy hunting

In the following we refer to trophy hunting (also known as (tourist) safari hunting or sport hunting) as defined by the IUCN: "Trophy hunting generally involves the payment of a fee by a foreign or local hunter for a hunting experience, usually guided, for one or more individuals of a particular species with specific desired characteristics (such as large size or antlers). The trophy is usually retained by the hunter and taken home" (IUCN 2016).



**Fig. 2.5.1.** Reported leopard trade from 1975–2016 for the countries with CITES export quotas in CITES Resolution Conf. 10.14 (Rev. CoP16; CITES 2013) according to the CITES Trade Database. Category A includes bodies, live animals, skins, skulls and trophies. Category B includes bones, claws and teeth. Light blue: exports for category A from the countries with CITES export quotas as reported by those countries. Dark blue: imports for category A from the countries with CITES export quotas as reported by all member Parties to CITES. Orange: exports for category B from the countries with CITES export quotas as reported by those countries. Red: imports for category B from the countries with CITES export quotas as reported by all member parties to CITES (CITES 2019a).

Since 1975, the leopard has been included in CITES Appendix I (CITES 2012). In 1983, at the 4<sup>th</sup> CITES Conference of the Parties, the first of a series of resolutions with regard to leopard skin trade was adopted (CITES 1985a). Further CITES resolutions regarding leopard skin trade followed after Resolution Conf. 4.13 (CITES 1985b, 1989a, 1989b, 1992a, 1997, 2002b, 2004a, 2007a, 2012, Table 2.5.1). Current quotas for leopard hunting trophies and skins for personal use are specified in CITES Resolution Conf. 10.14 (Rev. CoP16; CITES 2013; Table 2.5.1). According to the Resolutions of the Conference of the Parties of CITES, a CITES leopard export quota is allocated to Botswana, the Central African Republic, Ethiopia, Kenya, Malawi, Mozambique, Namibia, South Africa, Tanzania, Uganda (only problem animals), Zambia and Zimbabwe (Table 2.5.1; Braczkowski et al. 2015). Hunting of leopards is prohibited or restricted to problem animals in Angola, Algeria, Benin, Burkina Faso, Republic of the Congo, Côte d'Ivoire, Democratic Republic of Congo, Djibouti, Equatorial Guinea, Gabon, Ghana, Guinea Bissau, Liberia, Mali, Mauritania, Morocco, Niger, Nigeria, Rwanda, Senegal, Sierra Leone, Somalia, South Sudan, Togo and Uganda. Although not listed in any Resolution of the Conference of the Parties of CITES, according to the CITES Website (CITES 2019b), the Democratic Republic of the Congo has also a CITES leopard export quota of 5 and Gabon had a quota of 5 from 2003–2008. From 1983–2013, the leopard quota of several countries was increased and the number of countries granted a CITES leopard export quota rose from 7 to 12.

### CITES export quotas

In 2016 at CoP17, it was decided that Parties which have quotas established under Resolution Conf. 10.14 (Rev. CoP16; CITES 2013) on quotas for leopard hunting trophies and skins for personal use shall “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 30<sup>th</sup> meeting” (CITES CoP Decision 17.114). Subsequently, Mozambique, Namibia, South Africa, Tanzania, Zambia and Zimbabwe submitted a non-detriment finding report (NDF) to the Animals Committee’s 30<sup>th</sup> meeting in July 2018 (CITES 2018a). At the CITES AC30 meeting in July 2018, Malawi and Kenya have expressed the wish for their CITES quotas to be removed from Resolution Conf. 10.14 (Rev. CoP16; CITES 2018b). At the CITES CoP18, it was decided that the remaining Parties which have quotas established under Resolution Conf. 10.14 (Rev. CoP16) and which have not yet submitted a NDF report, shall do so to the 31<sup>st</sup> meeting of the Animals Committee (Annex 3 CoP18 Doc. 46, CITES 2019c). Moreover, in Resolution Conf. 9.21 (Rev. CoP18) it was added that quotas for species listed in CITES Appendix I – such as the leopard – had to be reviewed at least every 9 years (CITES 2019d).

Some countries with CITES export quotas had or have a ban on leopard hunting (Table 2.5.2). South Africa set its leopard quota

**Table 2.5.1.** Overview over Resolutions of the Conference of the Parties in regard to leopard export quota allocation to member Parties to CITES (CITES 1985a, 1985b, 1989a, 1989b, 1992a, 1992b, 1994, 1997, 2002b, 2004a, 2007a, 2013). NDF = submitted an NDF report to AC30 in accordance with [CITES CoP Decision 17.114](#).

|     | <b>Conf.<br/>4.13<br/>CoP 4<br/>(1983)</b> | <b>Conf.<br/>5.13<br/>CoP 5<br/>(1985)</b> | <b>Conf.<br/>6.9<br/>CoP 6<br/>(1987)</b> | <b>Conf.<br/>7.7<br/>CoP 7<br/>(1989)</b> | <b>Conf.<br/>8.10<br/>CoP 8<br/>(1992)</b> | <b>Conf.<br/>8.10<br/>(Rev.)<br/>CoP 9<br/>(1994)</b> | <b>Conf.<br/>10.14<br/>(Rev.)<br/>CoP 12<br/>(2002)</b> | <b>Conf.<br/>10.14<br/>(Rev.)<br/>CoP 13<br/>(2004)</b> | <b>Conf.<br/>10.14<br/>(Rev.)<br/>CoP 14<br/>(2007)</b> | <b>Conf.<br/>10.14<br/>(Rev.)<br/>CoP 16<br/>(2013)</b> | <b>NDF</b>      |
|-----|--|--|---|---|--|---|---|---|---|---|-----------------|
| BWA | 80   | 80   | 80  | 100                                       | 100  | 130   | 130   | 130   | 130   | 130   | No              |
| CAF |  |  | 40  | 40  | 40   | 40  | 40  | 40  | 40  | 40  | No              |
| ETH |  |  | 500                                       | 500                                       | 500  | 500   | 500   | 500   | 500   | 500   | No              |
| KEN | 80   | 80   | 80  | 80  | 80   | 80  | 80  | 80  | 80  | 80  | No <sup>1</sup> |
| MWI | 20   | 20   | 20  | 20  | 50   | 50  | 50  | 50  | 50  | 50  | No <sup>1</sup> |
| MOZ | 60   | 60   | 60  | 60  | 60   | 60  | 60  | 60  | 120   | 120   | Yes             |
| NAM |  |  |   |   | 100  | 100   | 100   | 250   | 250   | 250   | Yes             |
| ZAF |  |  |   | 50  | 75   | 75  | 75  | 150   | 150   | 150   | Yes             |
| UGA |  |  |   |   |  |   |   |   | 28  | 28  | No              |
| TZA | 60   | 250  | 250                                       | 250                                       | 250  | 250   | 500   | 500   | 500   | 500   | Yes             |
| ZMB | 80   | 300  | 300                                       | 300                                       | 300  | 300   | 300   | 300   | 300   | 300   | Yes             |
| ZWE | 80   | 350  | 500                                       | 500                                       | 500  | 500   | 500   | 500   | 500   | 500   | Yes             |

<sup>1</sup> At the CITES AC30 meeting in July 2018, Malawi and Kenya have expressed the wish for their CITES quotas to be removed from Resolution Conf. 10.14 (Rev. CoP16; CITES 2018b).

**Table 2.5.2.** Countries with CITES export quotas where trophy hunting of leopards is/was banned by the national governments and duration of the ban.

| Country      | Start/Duration         | Reference   |
|--------------|------------------------|---|
| Botswana     | 2013–2019 <sup>1</sup> | Republic of Botswana 2012, Botswana Government 2019 |
| Kenya        | 1977, ongoing          | Republic of Kenya 2013                              |
| Malawi       | ?                      | Waterland et al. 2015                               |
| Namibia      | 2010 <sup>2</sup>      | Stein et al. 2016                                   |
| South Africa | 2016–2017              | <a href="#">Annex 3</a> AC30 Doc. 15, CITES 2018a   |
| Tanzania     | 1973–1978              | CITES 1985a   |
| Zambia       | 2013–2015              | Stein et al. 2016                                   |

<sup>1</sup>Moratorium only valid on public land.

<sup>2</sup>Already in 2009, Namibia issued no permits for leopard trophy hunting, but a formal one-year-moratorium was put in place in 2010.

to 0 in 2016 and 2017 allowing again the hunting of 7 leopards in 2018 ([Annex 3](#) AC30 Doc. 15, CTES 2018a).

Under CITES, the provision of benefits for conservation is not a prerequisite for the allocation of export quotas or for trophy hunting in general. However, some importing countries established specific conditions and have restricted import in the past if these demands were not met. For example, the U.S.A. had suspended the import of lion trophies from Tanzania from 2014–2019 due to insufficient information on the status and management to show that hunting enhances the survival of the species. Such import suspensions with their accompanying negative effects due to the (temporary) loss of a market and income for leopard should be pre-empted by ensuring and documenting a positive conservation impact from trophy hunting.

The leopard is a key species for the trophy hunting industry (Lindsey 2008, Brackowski et al. 2015). The monetary value of leopard trophies exported for personal purposes and hunting trophies from 2006–2010 was estimated at USD 845,400 (UNEP-WCMC 2013). In addition to direct fees, trophy hunting generates revenue from daily rates (e.g. for accommodation and staff), travel and safari expenditure, taxidermy, observer rates (e.g. accommodation for non-hunters accompanying their partners) and gratuities (de Beer 2009).

Revenue from trophy hunting and the maintenance and protection of range under a wildlife-based land use, can positively affect wildlife populations, including non-hunted species (Balme et al. 2010b, IUCN SSC 2012a, Cooney et al. 2017). Moreover, local social and economic benefits from the use of a species (e.g. through trophy hunting) can provide incentives for local people to conserve them and their habitats and especially be an important part of community-based conservation (IUCN SSC 2012a). If revenues go to local communities, they also positively enhance the local human livelihoods and likely lead to a higher tolerance of predators by local communities. Generally, the generation of substantial revenue from trophy hunting can be invested in conservation activities, and in areas where ecotourism is not economically viable, sustainable hunting can create

important incentives for biodiversity conservation (Di Minin et al. 2015). Namibia is such a case where trophy hunting has generally been shown to directly benefit wildlife conservation (G. Balme, pers. comm.), because the revenue from trophy hunting has encouraged local communities to participate in conservation. This led to an increase in the abundance of wildlife species and to an increase in the total land area under community protection through conservancies (Lindsey et al. 2007, Di Minin et al. 2015). To deliver such benefits in the long term, all harvest must be sustainable.

Sustainable hunting of large carnivores is generally a challenge because (1) such species live at low densities (compared to other game species) and viable populations require very large spaces, and (2) the characteristic land tenure and social system of large cats entails that the recruitment is sensitive to changes in the population structure. This is especially the case if a population is low, e.g. due to reduced prey availability, which is the case for several leopard populations. Where trophy hunting is poorly managed, it can have negative impacts on the viability of the population through altered age/sex structures, social disruption, deleterious genetic effects (IUCN SSC 2012a). There were a number of concerns raised with regard to the impact of trophy hunting on leopard populations (e.g. Balme et al. 2010b, Pitman 2012, Brackowski et al. 2015). Inadequate trophy hunting can reduce the genetic diversity by targeting always the fittest (e.g. the largest) individuals (Balme et al. 2010b, Brackowski et al. 2015). Moreover, if not well managed, hunting can impact demographic patterns and the social organisation of leopard populations (Balme et al. 2010b, Pitman 2012, Kerth et al. 2013, Stein et al. 2016). Repeated removal of resident male leopards can lead to a high turnover of males and result in increased infanticide (Balme et al. 2009, Packer et al. 2009, Balme 2010, Strampelli 2015).

Thus, generally, to be beneficial to conservation, trophy hunting needs to be long-term sustainable, hence non-detrimental to the population. This requires a science-informed management and economic benefits to local communities as a compensation for the costs for living alongside large carnivores (Leader-Wil-

liams & Hutton 2005, Balme et al. 2010b, Chase-Grey 2011, IUCN SSC 2012a).

### Non-detriment finding reports

In Resolution Conf. 14.7 (Rev. CoP15) on Management of nationally established quotas, the CITES Parties agreed that exports of species should be maintained at a level that has no detrimental effects on the population of the species. As in the “Guidelines for the Conservation of Lions in Africa” (CITES 2019e), we interpret this here as “needing to ensure not only that the population survives, but also that leopard numbers are maintained at a level where they are ecologically effective within the ecosystem concerned. With any hunting, there is of course detriment to the individual concerned, but our detriment consideration is aimed specifically at the population level, to ensure that hunting does not negatively impact conservation”.

Leopard export quotas under CITES were discussed in a Working Group at the 30<sup>th</sup> meeting of the CITES Animals Committee (Geneva, 16–21 July 2018; see [Executive Summary from Monday 16 July 2018 \(Rev.1\)](#), Point 15), and again at the 70<sup>th</sup> CITES Standing Committee meeting (Sochi, 1–5 October 2018). The non-detriment finding (NDF) reports submitted by the Parties (see [CoP17 Decision 17.114](#)) revealed that most countries today issue a number of leopard licenses per year that is considerably lower than the export quota, taking into consideration the presently unfavourable conservation status of many leopard populations. In Namibia, between 2004 and 2017 an average 142 leopards were hunted, corresponding to 56% annual quota uptake ([Annex 2](#) AC30 Doc. 15, CITES 2018a). In Mozambique, from 2011–2017 safari hunting offtakes were around 40–50% of the quota allocated by the Government of Mozambique (which varied between 106–117 per year; [Annex 1](#) AC30 Doc. 15, CITES 2018a). In South Africa, from 2005–2016, 73 leopard trophies were exported on

average per year. The Scientific Authority recommended a quota of 7 male leopards seven years or older for 2018 ([Annex 3](#) AC30 Doc. 15, CITES 2018a). In Ethiopia, about 5 leopards are hunted per year (CITES 2018e). In Tanzania, 162 leopards were harvested on average per year, corresponding to 32.4% of the national quota ([Annex 4](#) AC30 Doc. 15, CITES 2018a). In Zimbabwe from 2010–2017, the off-take of leopards varied between 133 and 186 animals per year ([Annex 6](#) AC30 Doc. 15, CITES 2018a).

Currently, there is no defined standardised form for an NDF report. Nonetheless, there were recurring sections and elements present in (almost) all NDF reports submitted in response to CITES CoP17 Decision 17.114 (Table 2.5.3).

In the International expert workshop on non-detriment findings for hunting trophies of certain African species included in CITES Appendices I and II, 26–29 April 2018, Seville, Spain (CITES 2018c), the leopard working group concluded that:

- NDFs should be considered at a national scale;
- Reliable leopard population size estimates are not feasible at a national scale;
- Adaptive management should be informed by estimates of population trend;
- The development of a robust monitoring framework to reliably assess population trends at a national scale (combination of intensive & extensive monitoring) is needed;
- National management plans are needed;
- A standard quota of 1–3 leopards/1,000 km<sup>2</sup> is inappropriate; and
- Hunting of older males should be encouraged.

No consensus between the experts was reached with regard to the implementation of a minimum 7 year threshold and the linkage of damage-causing-animal control and hunting (CITES 2018c).

**Table 2.5.3.** Suggested common elements of NDFs for leopard based on reports submitted to CITES under CoP17 Decision 17.114.

| Section                      | Elements   |
|------------------------------|--|
| Status & monitoring          | Monitoring system<br>Distribution, abundance, trend, assessment of data quality  |
| Threats                      | Most important threats in the country & known additional mortalities (e.g. from illegal killings, Problem Animal Control...) |
| Legislative Tool             | Relevant national laws   |
| Management Tools             | Existence and content of Management Plans  |
| Sustainable hunting quotas   | System of quota distribution & harvest restrictions  |
| Monitoring of trophy hunting | Surveillance of compliance to quota and harvest restrictions   |
| Benefits & Incentives        | Compare with IUCN SSC Guiding principles on trophy hunting as a Tool for Creating Conservation Incentives                    |
| Conclusion                   | Justification of suggested quota (not justification of current off-take!)  |

<sup>1</sup>In accordance with current CITES policies on NDFs: “Parties seeking to establish or amend such a quota for a species included in Appendix 1 are required to present supporting information including details of the scientific basis for the proposed quota [...]” (CITES 2019f).

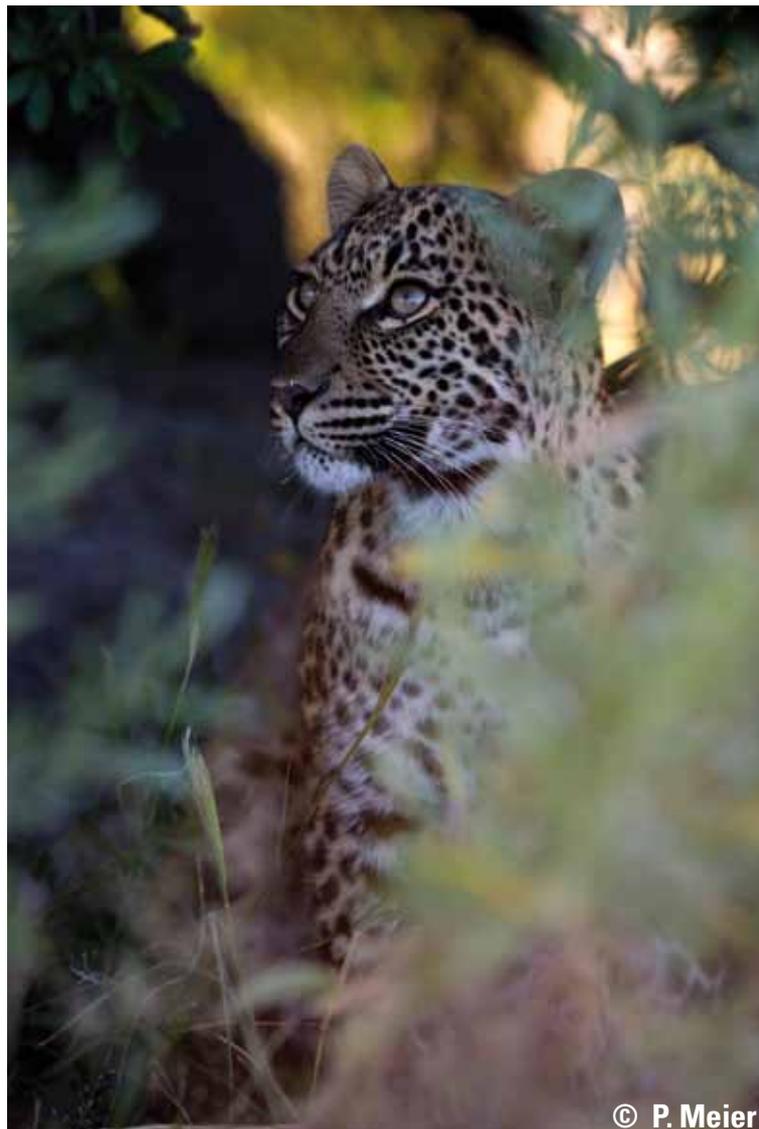
## 2.6 IUCN Red List Assessment of *Panthera pardus*

The leopard has a very wide geographical range with several distinct subspecies and is therefore difficult to assess as a single species at global scale. Knowledge of the leopard's status is still extremely limited at regional and national scales and surveys – if available – were done under diverging approaches and at different periods. A global assessment accordingly incorporates often information over several decades. Only few reliable data on leopard population trends are available and no recent population estimate over its whole range exists (Stein et al. 2016). The characteristic elusiveness of leopards makes them difficult to survey, but modern monitoring methods, especially camera trapping, have recently shed light on the population trend of leopard populations. The current range-wide population trend is assessed to be decreasing (Stein et al. 2016; Chapter 2.4). Based on high inferred and suspected levels of leopard population declines of over 30% over large parts of its range in the last three generations, the leopard was globally up-listed from Near Threatened (2008) to Vulnerable in 2016

under Criterion A2cd in the IUCN Red List (Henschel et al. 2008, Stein et al. 2016). The population decline is based on habitat loss, prey decrease and actual and potential levels of exploitation. The negative trend is thought to go on in the future unless appropriate conservation measures are taken (Stein et al. 2016).

Numbers of sub-Saharan leopards are declining within large portions of their range, particularly outside of Protected Areas (PAs; Stein et al. 2016). Widespread habitat loss (21% in sub-Saharan Africa in 25 years) and prey loss inside PAs (59% decline) is likely to have caused leopard declines of over 30% over the last three generation (22.3 years). Thus, the leopard subpopulations across Sub-Saharan Africa potentially qualify as Vulnerable (Stein et al. 2016).

In North Africa, the leopard is proposed as Critically Endangered, based on very small and declining numbers of mature individuals (Stein et al. 2016).



## 3 Threats, knowledge gaps and conservation challenges

Leopard populations have been reduced throughout most of their range in Africa with drastic reductions mainly across

West and Central parts of the continent (P. Henschel, pers. comm., Stein et al. 2016).

### 3.1 Threats

The major threats to leopards across Africa are anthropogenic in origin such as habitat loss and fragmentation, human-wildlife conflict, poaching, prey depletion, unsustainable trophy hunting, poaching for the wildlife trade and incidental snaring (Daly et al. 2005, Ray et al. 2005, Balme et al. 2009, 2013, Hunter & Barrett 2011, Packer et al. 2011, Boast 2014, Caro & Riggio 2014, Constant 2014, Strampelli 2015, Stein et al. 2016, Richmond-Coggan 2019). These threats have led to significant reductions and regional extirpations of leopards, especially in North, East and West Africa (Stein et al. 2016).

#### Habitat loss and fragmentation

Habitat loss and fragmentation are significant threats to leopards in East, West and Central Africa, and to a lesser extent in southern Africa (Pitman 2012, Stein et al. 2016). Although leopards are quite adaptable, they have limited levels of ecological resilience to human-caused habitat fragmentation and they need large contiguous habitats with low levels of negative human impact to reproduce successfully (Balme et al. 2010a). Subadult dispersal, including transboundary movements, is crucial for maintaining the genetic and demographic integrity of the entire (meta-) population (CMS 2017). Dispersal is not only important for the genetic fitness of a metapopulation or for an anthropogenically fragmented population, but also an important mechanism for recolonisation of lost areas. Such recolonisation also across international borders is a conservation priority for some regional metapopulations such as the whole of West Africa (CMS 2017). The free migration of leopards across international borders is a crucial factor for the recovery of various populations (CMS 2017).

Increasing habitat loss and fragmentation also negatively impact leopard prey. The consequences are increased conflicts between leopards and humans due to livestock predation, which results in more direct persecution of leopards (CITES 2007b).

#### Prey depletion

Development projects not only impact the leopard due to habitat loss and fragmentation, but have also negative consequences for its prey, especially wild ungulate populations (Stein et al. 2016). The leopard's persistence (in human-altered habitats) relies highly on the availability of prey (Jorge 2012). Prey depletion, due to overhunting and overgrazing by

livestock, is a major threat to leopards and can be an important driver of leopard population declines (Henschel 2008, Pitman 2012, Stein et al. 2016).

In Africa, natural prey species of the leopard (mainly medium sized ungulates) are widely hunted by humans for the bushmeat trade (Jorge 2012, Stein et al. 2016). There are indications that bushmeat is increasingly traded commercially in many areas due to the increased human population, leading to an increased demand for bushmeat, too (Lindsey et al. 2015). In several places in West and Central Africa the "empty forest syndrome" can be observed, where forest habitats are still intact, but prey species have been nearly wiped out by overhunting (Henschel 2008, Olupot et al. 2009, Hunter & Barrett 2011). In African rainforests, leopards seem to exhibit a strong functional and numerical response to competition with human hunters for prey as there is a high dietary overlap between them. Consequently, leopard populations are smaller or absent close to settlements where hunting pressure on prey is high (Henschel 2001, 2008, Willcox 2002). In the savannahs of Africa, important leopard prey is under threat from an unsustainable bushmeat trade leading to a collapse of prey populations (Lindsey et al. 2013a). The demand for bushmeat and other wildlife products in savannah Africa is expected to increase even more in the future (Lindsey et al. 2013a). Accordingly, the long-term solution for the problem of reduced prey availability for leopard will have to be a variety of measures at several levels.

#### Conflict

Human-leopard conflicts due to leopard predation on livestock (often as a consequence of wild prey reduction) and resulting retaliation killing are widespread across the continent. Persecution of leopards by humans has demographic consequences and poses a threat to the sustainability of populations (Swanepoel et al. 2014, 2015).

Retaliation killing due to livestock predation is considered a major threat to leopards in eastern and southern Africa and to a lesser extent in West and Central Africa. In several countries of Sub-Saharan Africa, where predators are considered a threat to life and property, the killing of predators in protection for life or property is legal and permits can even be obtained retroactively (Lemeris 2013, Boast 2014, Constant 2014, Stein et al. 2016, Richmond-Coggan 2019). However, many leopards killed due to livestock or game predation stay

unrecorded. For example in Namibia, 50% of landowners did not apply for a permit (Richmond-Coggan 2019). Generally, the extent of mortality due to persecution and conflict remains unknown (Stein et al. 2016).

Human-leopard conflict due to leopards preying on game animals is an issue in southern Africa (G. Balme pers. comm., Boast 2014). Especially in parts of South Africa, predation of leopards on game is one of the major causes of human-leopard conflict, and leopards were highly persecuted (Swanepoel 2008). In Namibia, both perceived and actual threat of livestock and game loss led to extensive leopard removals by landowners (Richmond-Coggan 2019). The conflict has increased even more when the ranching industry began breeding high-value game species or colour morphs (Thorn et al. 2013). In some regions, wildlife authorities grant permits to concerned landowners for the removal of confirmed damage-causing leopards, but the risk to eliminate non-problem leopards remains (Balme et al. 2009).

### Illegal snaring & killing for trade

Snaring is an unselective method; both predator and prey species are indiscriminately captured. This is also a direct threat to leopards as they occasionally get caught in snares set for other species, e.g. for bushmeat hunting (see above 'Prey depletion'). Besides accidental killing, leopards are also directly

poached for the wildlife trade as their skins are very popular and their bones are used as substitutes for tiger parts in Traditional Chinese Medicine (EIA 2018, Raza et al. 2012). Seizures of leopards were similar to those of tigers in many Asian range States, and outside Asia in terms of derivate seizures (Nowell & Pervushina 2014). Leopards are considered to be the most traded big cat in Asia. Since 2000, 5,030 leopards (likely representing a fraction of what is actually traded) have been seized from illegal trade in Asia (EIA 2018). Traders have occasionally claimed that leopard skins appearing in the "Golden Triangle Special Economic Zone" of Lao PDR's Bokeo Province, from where they are sold mainly to China, have been sourced from Africa (EIA 2011a, b, 2015).

The killing of leopards for their skins, canines and claws is mainly a problem in West, Central and southern Africa (Hunter & Barrett 2011, Constant 2014, Stein et al. 2016). Across the latter, leopards are excessively harvested for their skins which are used in ceremonies and for cultural purposes (Stein et al. 2016). Around 879 +/- 53 leopards were estimated to be killed and traded illegally each year in (southern) Africa to meet the demands for skins by followers of the Nazareth Baptist Shembe Church alone (Balme et al. 2013b, Lindsey et al. 2015, G. Balme, unpubl. data). It is estimated that there are 15,747 +/- 946 leopard skins in circulation among members of the church (G. Balme, unpubl. data). Also leopard skins originating from Mozambique appear in this market of skins ([Annex 1](#) & [Annex 2](#) AC30 Doc. 15, CITES 2018a).

## 3.2 Knowledge gaps and conservation challenges

From the above, it follows that the main challenges for implementing leopard conservation activities and management measures include lack of

1. Information on current leopard population size, status and trends across its African range;
2. Knowledge on the relative importance and impact of different direct and indirect threats on the leopard;
3. Awareness of the critical situation for the species and its importance in the ecosystem;
4. Capacity and resources (including financial means) on multiple levels, e.g. enforcement officers lack training to recognise protected species or parts of them; and
5. Law enforcement and implementation of protection measures.

Current population status assessments, strategic conservation plans and National Action Plans are relatively rare for leopard in Africa (Table 3.1) and no Regional Conservation Strategy for the leopard exists. Moreover, there are few conservation strategies for other large carnivores from which leopards may indirectly benefit.

There is a general need for more country-wide and leopard-focused surveys and research (especially outside of PAs) to assess the distribution, abundance, status and trends of leopard populations across Africa. Moreover, the impacts of threats are not yet fully understood but are potentially severe, and need investigation. Conflict mitigation strategies for human-leopard conflicts have been developed in some places, but are not currently enough to assure the leopard's long-term survival (Stein et al. 2016).

**Table 3.1.** Status assessments, Regional Conservation Strategies, National Action Plans, documents outlining conservation measures developed specifically for the leopard, and documents produced for other species considered being beneficial for leopard conservation.

| Region/Country       | Document   |
|----------------------|--|
| Africa               | Setting conservation and research priorities for larger African carnivores (Ray et al. 2005)   |
|                      | The leopard <i>Panthera pardus</i> in Africa (Myers 1976)  |
| Sub-Saharan Africa   | Status and conservation of leopards in Sub-Saharan Africa (Eaton 1977)   |
|                      | The Status of Leopard in Sub-Saharan Africa (Martin & de Meulenaer 1988)   |
| Guinea               | Stratégie nationale de conservation des grands carnivores en Guinée (DNDBAP no date)   |
| Liberia              | Large mammal distribution in Liberia (Anstey 1991)   |
| Mozambique           | Review of the Leopard ( <i>Panthera pardus</i> ) quota of Mozambique, established per Resolution Conf. 10.14 (Rev. CoP16) and non-detriment determinations, in accordance with CITES Decision 17.114 ( <a href="#">Annex 1</a> AC30 Doc.15, CITES 2018a) |
| Namibia <sup>1</sup> | Interpretation and implementation of the Convention – Regular and special reports – Appendix-I species subject to export quotas – Leopard – Export Quota Review – Namibia ( <a href="#">Annex 2</a> AC30 Doc.15, CITES 2018a)                            |
| Somalia              | Status of large mammals in Somalia (Fagotto 1985)  |
|                      | Conservation plan for the Cape Mountain leopard population (Norton 1986)   |
|                      | Threatened status for the leopards in South Africa (Arnett 1981)   |
| South Africa         | Leopard <i>Panthera pardus</i> population and habitat viability assessment (Daly et al. 2005)  |
|                      | Non-Detriment Finding Assessment for the trophy hunting of leopards in South Africa (Lindsey et al. 2011a)   |
|                      | Leopard Quota Review: South Africa ( <a href="#">Annex 3</a> AC30 Doc.15, CITES 2018a)   |
|                      | The Tanzania Lion and Leopard Conservation Action Plan (TAWIRI 2009)   |
| Tanzania             | Report on Decision 17.114 regarding African leopard ( <i>Panthera pardus</i> ) quotas established under Resolution Conf. 10.14 (Rev. CoP16) ( <a href="#">Annex 4</a> AC30 Doc.15, CITES 2018a)  |
| Uganda               | Strategic Action Plan for large Carnivore Conservation in Uganda (UWA 2012)  |
| Zambia               | Non detrimental findings report for African leopard sport hunting in Zambia ( <a href="#">Annex 5</a> AC30 Doc.15, CITES 2018a).   |
| Zimbabwe             | Zimbabwe’s review of the convention on international trade in endangered species (CITES) leopard ( <i>Panthera pardus</i> ) quota ( <a href="#">Annex 6</a> AC30 Doc.15, CITES 2018a)  |

<sup>1</sup> Namibia is in the process of developing a leopard management plan based on the national leopard survey conducted in 2019 ([Annex 2](#) AC30 Doc. 15, CITES 2018a; Richmond-Coggan 2019).



## 4 Policy and conservation

### 4.1 Policy frameworks

*Panthera pardus* has been listed on [Appendix I](#) of CITES since 1975, restricting the trade of skins or products, included under [Appendix II](#) (strictly protected species) of the Bern Convention (Convention on the Conservation of European Wildlife and Natural Habitats), and included in [Appendix II](#) of CMS since 2017 (CMS 2017). The leopard is protected under the U.S. Endangered Species Act 16 United States Code, Section 1538 (Stein et al. 2016). The U.S. Fish and Wildlife

service lists the leopard as Threatened<sup>3</sup> “in Africa, in the wild, south of, and including, the following countries: Gabon, Congo, DRC, Uganda, and Kenya”. In all other parts of Africa, the leopard is considered Endangered according to the [US Fish and Wildlife Service](#). In the EU Wildlife Trade Regulations the leopard is listed in [Annex A](#). About 17% of the leopard’s global distribution range is estimated to be protected (Jacobson et al. 2016).

### 4.2 International cooperation under the auspices of CITES and CMS

CITES and CMS, the two species-oriented international conventions under the auspice of the United Nations, have agreed on a [joint work programme 2015–2020](#), which provides a framework for cooperation. The CITES and CMS Secretariats jointly developed the [African Carnivores Initiative](#) (ACI) with the objective to bring more coherence to the implementation of existing CITES and CMS Resolutions and Decisions related to four African carnivores, namely African wild dog, cheetah, leopard and lion, recognising that the four species overlap in their distribution and that overall threats, and the conservation measures called for to address them, are comparable to the four species.

holds particular potential, especially if combined with other international treaties such as CITES, the [Ramsar Wetland Convention](#), the [World Heritage Convention](#) and the transboundary conservation area (TBCA) treaties. There is a considerable amount of conceptual and [spatial overlap](#) of the different concepts, and a more conscious synergistic approach would help improving the efficiency.

At CMS CoP12, the Parties also adopted [Decision 12.60](#), requesting the CMS Secretariat to establish the Joint CMS-CITES African Carnivores Initiative (ACI) and work with the CITES Secretariat to jointly support Parties to CMS and CITES in implementing conservation measures in CMS Resolutions and Decisions pertaining to African carnivores, specifically to leopard, lion, cheetah, and wild dog.

At the 12<sup>th</sup> meeting of the Conference of the Parties to CMS (CoP12, October 2017, Manila), Parties agreed to the [proposal of Ghana, I. R. Iran, Kenya and Saudi Arabia](#) for the inclusion of the leopard (*Panthera pardus*) in Appendix II of the Convention. Although felids are, in the strict biological understanding of the term, not migratory species, many of them, including the leopard, meet the definition of a species to be considered under the CMS, as explained in the proposal: The Convention defines ‘migratory species’ as the entire population or any geographically separate part of the population of any species or lower taxon of wild animals, a significant proportion of whose members cyclically and predictably cross one or more national jurisdictional boundaries (CMS Article I (1)). Individual resident leopards move freely across international boundaries, but more important is the migration of subadult leopards: “However, the migratory character of leopards in the understanding of the Conventions is a consequence of subadult dispersal, which is crucial for maintaining the genetic and demographic integrity of any solitary cat population, and is especially important for large cats such as leopards, whose populations generally spread across international boundaries and are increasingly fragmented through human activities and encroachment” (CMS 2017).

At CITES CoP18, the Parties decided to task the Secretariat with including the ACI in the upcoming CMS-CITES joint work programme for the period 2021–2025 and with developing a Programme of Work for the ACI in collaboration with CMS and, as appropriate, the IUCN. The draft Programme of Work shall then be submitted to the CITES Standing Committee for review and appropriate revision ([Annex 2](#) CoP18 Doc. 96, CITES 2019g, with amendments in CITES 2019h).

The CITES and CMS Resolutions and Decisions related to the four species that are currently covered by the Initiative are the following:

- CITES [Decisions 17.241 – 17.245](#) on African lion (*Panthera leo*);
- CITES [Decisions 17.114 – 17.117](#) on Quotas for leopard hunting trophies;
- CITES [Decisions 17.124 – 17.130](#) on Illegal trade in cheetahs (*Acinonyx jubatus*);

In two recent review articles, Trouwborst et al. (2017) and Hodgents et al. (2018) analysed the potential of international wildlife treaties with regard to their combined contribution to lion conservation. Although these two reviews were performed for lion, they are also valid for leopard conservation. They concluded that CMS

<sup>3</sup> According to the [USFWS ECOS Listed Animals](#), Endangered is “a species in danger of extinction throughout all or in significant portion or its range”, and Threatened is “a species likely to become endangered within the foreseeable future throughout all or a significant portion of its range”.

- CITES [Decisions 17.235 – 17.238](#) on African wild dog (*Lycaon pictus*);
- CITES [Resolution Conf. 10.14 \(Rev. CoP16\)](#) on Quotas for leopard hunting trophies and skins for personal use;
- CMS [Resolution 12.28](#) on Concerted Actions;
- CMS [Decisions 12.55 – 12.60](#) on the Joint CMS-CITES African Carnivores Initiative;
- CMS [Decisions 12.61 – 12.66](#) on the Conservation and Management of Cheetah (*Acinonyx jubatus*) and African Wild Dog (*Lycaon pictus*);
- CMS [Decisions 12.67 – 12.70](#) on the Conservation and Management of the African Lion (*Panthera leo*).

(Note: as of 10 September 2019, the Decisions and Resolutions of CITES CoP18 have not yet been numbered and published and were therefore not included in the list above).

### 4.3 Surveys and monitoring

Methodological approach, efforts and available publications and reports on monitoring, research and conservation activities vary strongly depending on the country.

There is no single monitoring method universally applied across the African leopard's range any published recommendation for a standardised approach, but in recent years, camera trapping has – as for other individually distinct solitary terrestrial mammals – been demonstrated a good way to produce reliable data on leopards.

South Africa applies an intensive monitoring using systematic camera trap surveys every year at 20 strategic sites across the country, in order to produce a robust estimate on leopard population density by means of spatial capture-recapture sampling. This method is combined with an extensive monitoring including relative abundance indices, generated by occupancy estimation, catch-per-unit effort and changes in harvest composition (CITES 2018c, Mann et al. 2018). In South Africa, norms and standards for leopard trophy hunting are under development to create a national management plan providing standardized management guidelines ([Annex 3](#) AC30 Doc. 15, CITES 2018a).

The Zambian Department of National Parks & Wildlife intends to set up a very similar system for Zambia as applied in South Africa ([Annex 5](#) AC30 Doc. 15, CITES 2018a). Also in Mozambique, monitoring frameworks are developed to reliably assess leopard population trends at a national scale ([Annex 1](#) AC30 Doc. 15, CITES 2018a).

In Namibia, leopards were monitored in the frame of the National Carnivore Monitoring Programme (LCMAN no date) and information on their status and distribution is continuously collected for the Namibia Large Carnivore Atlas which is updated every six months (Hanssen & Stander 2003, 2004). In the National Leopard Survey in Namibia, Stein et al. (2012) used a combination of questionnaires, camera trapping, spoor tracking

In particular, the ACI seeks to contribute to the enhanced conservation of the four species across their range in Africa, as provided in the relevant CITES and CMS Resolutions and Decisions, by:

- Implementing relevant activities called for in existing CMS and CITES Decisions concerning the four species;
- Developing concrete, coordinated and synergistic conservation programmes that benefit the conservation of all four carnivore species, with local and regional projects implemented across their African range;
- Developing policy guidance and recommendations for range States, CITES and CMS Parties concerning the four species; and
- Organising collaboration with other conservation initiatives and organisations, such as IUCN.

and evidence of leopard presence provided by multiple stakeholders. The study on The Namibian Leopard: National Census and Sustainable Hunting Practices was completed in 2019 and utilised a multi-disciplinary approach, inside and outside national parks, and combined ecological methodologies and social science to understand the pressures on, and status of the leopard population across Namibia (Richmond-Coggan 2019). Through the collection of multi-stakeholder presence records, camera traps, questionnaires, trophy hunting records and problem leopard removals the survey updated leopard distribution and densities, determined conflict hotspots, trophy hunting trends and sustainable off-take (Richmond-Coggan 2019).

The Tanzania Wildlife Research Institute is currently conducting nationwide leopard and lion surveys ([Annex 4](#) AC30 Doc. 15, CITES 2018a).

Ethiopia conducts leopard “census work every two years” and is performing a national leopard population survey in 2019 ([SC70 Doc. 55](#), CITES 2018b).

In Zimbabwe, the Zimbabwe Parks and Wildlife Management Authority, the Wildlife Conservation Research Unit of Oxford University and the Zambezi Society assessed the national leopard population from 2009–2012. A “monitoring framework for leopards in Zimbabwe that combines rigorous estimates of leopard population densities from camera-trap surveys undertaken annually at key sites with broader-scale estimates of leopard occupancy derived from track count at the same sites” is proposed (Panthera & ZPWMA 2018). Such a framework will allow identifying and responding to changes in leopard populations (Panthera & ZPWMA 2018). The Zimbabwe Parks and Wildlife Management Authority together with Zimbabwe Professional Hunting Guides Association and Safari Operators Association of Zimbabwe “has put in motion an action plan to cover the known range of leopard in Zimbabwe using hard ground work in the form of spoor transects, independent data submissions in the form of trail cam

pictures, historic quota and off-take trends and scientific interpretation of these” (Annex 6 AC30 Doc. 15, CITES 2018a).

Consistent monitoring across the leopard’s distribution range is crucial for a realistic assessment of the population status. Sim-

plistic extrapolation of densities from monitoring plots (e.g. by means of habitat models) risk to result in an overestimation of the total abundance as the study areas are generally in the best areas, e.g. in PAs.

## 5 Recommendations

The long-term conservation of the leopard *Panthera pardus* needs more attention and more means at global, regional and national level, both from governmental and private institutions dealing with wildlife management, conservation, and research. While all other large cats such as lions, cheetahs, tigers *Panthera tigris*, jaguars *Panthera onca* or snow leopard *Panthera uncia* have been in the focus of conservation organisations for a long time, the leopard was neglected and

leopard conservation activities under-funded (Breitenmoser 2015). The [joint CMS-CITES African Carnivore Initiative](#) (ACI) offers the opportunity to advance leopard conservation in the years to come. Many of the shortcomings and gaps mentioned in Chapter 3 can be addressed for all species considered under the ACI together (e.g. capacity development), but others will have to be tackled in projects specifically for the leopard.

### 5.1 Strategic planning for leopard conservation

Conserving species such as the leopard, who requires huge spaces for maintaining viable populations and is often in conflict with people sharing the same living space, is a particular challenge. For the outline of a possible approach following hereafter, we refer to the IUCN recommendations for the strategic planning in species conservation as outlined in IUCN SSC Species Conservation Planning Sub-Committee (2017) and Brei-

tenmoser et al. (2015) and use the principle IUCN approach of “Assess – Plan – Act” (IUCN SSC 2017; Fig. 5.1.1).

ASSESS includes the thorough analysis of the situation, e.g. the conservation status of the species in the area of interest, but also the identification of key stakeholders, potential actors and partners, and the capacities available.



**Fig. 5.1.1.** IUCN’s Assess-Plan-Act cycle (IUCN SSC 2017). KSR are Key Species Results as defined by the Species Survival Commission.

PLAN incorporates the strategic planning at range-wide or regional, in the case of large cats most often at transboundary level, but also the development of more concrete implementation plans, e.g. in form of National Action Plans (NAPs).

ACT is the phase of the implementation of the Strategy and the NAPs.

A robust monitoring of the effects of the interventions in the ACT phase is required. This includes most often a general

monitoring of the populations affected, but may need more specific measuring of indicators defined for certain results. This monitoring allows then to re-ASSESS the situation. As long as the overall goal of a conservation strategy is not reached, the continuous or periodic monitoring and evaluation will lead to a review and if needed adaptation of the PLAN in order to make it more effective. The “strategic planning cycle” (Breitenmoser et al. 2015) hence describes an adaptive process.

## 5.2 Steps towards a leopard conservation programme

Given the wide range of the leopard in Africa and the regional differences of the status of the predator and its prey, it is not possible to integrate all countries under one leopard conservation plan, although many strategic goals might be valid for the whole of the continent if not for the species’ global range. The division of the leopard range into “conservation regions” allows developing more specific and effective Regional Conservation Strategies (and subsequently National Action Plans), also in order to facilitate transboundary cooperation between Range Countries. We propose to use the same four regions already in use for the Regional Conservation Strategies for the lion: West Africa, Central Africa, East Africa and southern Africa (Table 2.3.1, Fig. 2.3.2). As the leopard is almost extinct in northern Africa (extant range: 5,800 km<sup>2</sup>, 94–99% of historical range lost; Jacobson et al. 2016), countries such as Algeria or Egypt, where some leopards may still exist, are included in the conservation regions West and East Africa, respectively (Fig. 2.3.1). However, the recovery of the leopard in Saharan Africa will require very special efforts.

A strategic planning process for the conservation of the leopard in Africa will be able to profit from the work done for the other three species in the ACI, as the key national institutions, the international players, the organisational structures as well as the conservation challenges and solutions will be the same or at least broadly overlap. What however is needed is more detailed leopard-specific information, and in this respect, the leopard is lagging behind the other ACI species. We propose the following steps to be taken towards a comprehensive conservation programme for *Panthera pardus* in Africa:

1. *Setting the context and reviewing the state of knowledge:* This Roadmap can serve as a first overview of published data on the situation of the leopard in Africa. However, our review has revealed considerable gaps with regard to detailed information from many Range Countries. We suggest taking the information provided in the Roadmap as a starting point, but to produce more detailed Status Reviews for each of the four proposed Conservation Regions. These Reviews should be done by means of a standardised approach including national institution and experts familiar with the leopard/wildlife in the respective country.
2. *Develop Regional Conservation Strategies and (National) Action Plans:* As for lion, cheetah and African wild dog, RCSs should then be developed in order to guide the development of more specific NAPs, according to the Guidelines for Species Conservation Planning (IUCN-SSC Species Conservation Planning Sub-Committee 2017). An RCS would define the Goal, Objectives, Results, and Actions at regional level. The NAPs would then concretise the Objectives and Results valid for the respective country, and define the Actions, actors, and time-frame at national level. The RCS should take into consideration the metapopulation structure of (transboundary) leopard populations as identified in Step 1. Depending on the spatial structure, the strategic and action planning could be united in one Conservation Plan for such a leopard metapopulation. But as the concrete implementation of actions is most often very country-specific, NAPs are generally the most practical way for implementing actions.
3. *Implement conservation actions and monitor the effect on leopard populations:* Conservation measures as defined in the RCS and NAPs are then implemented according to the time plan defined in the plans. A monitoring concept to observe the effects of the interventions is implemented parallel to the action plans. The implementation phase requires a good organisational structure, including a clear communication, exchange of information and sharing experiences. The [Range Wide Conservation Programme for Cheetah and African Wild dogs](#) made good experiences with regional and national coordinators who are closely working together and facilitate the implementation of the RCS and NAPs. The Range States recommended at ACI1 to set up such a network of National and Regional Coordinators also for the implementation of the ACI, of which the leopard is part.
4. *Review RCS and NAPs and adapt the conservation activities:* Regular reporting and meetings are organised to track the progress and to make adaptations wherever needed. Most strategies and plans, when developed first, are setting too ambitious Objectives and Results in a too tight time frame. Therefore, an adaptive process, informed by a good monitoring and good reporting, is highly recommended.

### 5.3 Preliminary Goal, Objectives and Actions for a leopard conservation programme in the frame of the ACI

**Goal:** To develop a comprehensive framework for leopard conservation at the continental, regional and national level in Africa.

The different status of the leopard populations in the four regions (Fig. 2.3.2) suggests that objectives and activities might be different for each conservation region. In southern and East Africa, further decline must be halted and the (connectivity between) leopard populations must be strengthened to avoid further fragmentation. In West Africa, conserving the remnant nuclei alone will likely not be sufficient to maintain the leopard. The populations are too small and too isolated to be viable at long-term. Here, lost ground must be regained in order to re-connect these small populations. Central Africa is probably in-between, but the information on the status of the leopard populations in this conservation region is so limited that basic surveys must be the first priority.

The following preliminary Objectives and Actions should be considered for a leopard conservation programme:

**Objective 1.** Strategic planning for leopard conservation at regional and national level: To develop, in a participatory process, Regional Conservation Strategies and National Action Plans for the implementation of conservation measures.

*Activity 1.1.* Develop in a participatory approach Regional Conservation Strategies for the leopard in accordance with this Roadmap.

*Result/Product:* A conservation strategy for each region (Fig. 2.3.2) coordinating the regional cooperation in leopard conservation.

*Activity 1.2.* Develop in a participatory approach National Action Plans as implementation tools in accordance with the respective Regional Conservation Strategy.

*Result/Product:* A national action plan for each range country guiding the implementation of leopard conservation activities.

The following themes (Objectives) and activities are proposed to be considered and, if appropriate, addressed in the Regional Conservation Strategies or the National Action Plans, respectively:

**Objective 2.** Baseline surveys: To survey and assess, for leopard regions with low level of knowledge, conservation status of leopards and their prey, threats, human attitudes and enabling conditions.

*Activity 2.1.* Develop best practice standards for baseline surveys for leopard conservation and a standardised list of topics to be compiled (e.g. by means of a questionnaire).

*Activity 2.2.* Identify priority areas for leopards for baseline survey.

*Activity 2.3.* Undertake the baseline surveys in the selected areas according to the defined standards under the auspice of the respective Range Country.

**Objective 3.** Monitoring: To establish a long-term monitoring scheme for leopards and implement it in the Range Countries to enable effective adaptive management of the species and assess population trends at a national/regional scale (populations and metapopulations).

*Activity 3.1.* Develop and promote the use of guidance for robust, cost-effective and reliable monitoring at a meaningful spatial scale.

*Activity 3.2.* Identify appropriate long-term reference sites that are representative for the regional conservation units (metapopulations) and apply appropriate methods to the defined standards.

*Activity 3.3.* Establish monitoring networks and build capacity to maintain long-term monitoring in the selected sites.

**Objective 4.** Conflicts and coexistence: To promote coexistence with leopards through reducing and mitigating human-leopard conflicts.

*Activity 4.1.* Develop in a participatory process (authorities in charge, experts, stakeholders, and local people), appropriate measures to reduce and mitigate human-leopard conflicts.

*Activity 4.2.* Identify areas with a conflict level threatening the (local) survival of leopards.

*Activity 4.3.* Implement appropriate mitigation measures in close cooperation with the local communities.

**Objective 5.** Trophy hunting: To ensure that trophy hunting is non-detrimental and fosters conservation of leopards.

*Activity 5.1.* Implement available best practice standards for non-detrimental leopard hunting.

*Activity 5.2.* Produce at regular intervals Non-Detriment Finding reports according to best standards to ensure sustainability of trophy hunting.

*Activity 5.3.* Design and implement policies to ensure the revenue generated from trophy hunting contributes towards meaningful leopard conservation.

**Objective 6.** Poaching of leopards and prey: To minimise poaching of leopards and prey by developing and enforcing appropriate protective frameworks.

*Activity 6.1.* Implement SMART or other adequate systems for threat and law enforcement monitoring and evaluation (for law enforcement see also Objective 11).

*Activity 6.2.* Understand and mitigate local social factors driving poaching of leopards and prey.

*Activity 6.3.* Develop local informant networks in communities in and around leopard populations.

**Objective 7.** Trade: To minimise illegal trade of leopards at national and international levels.

*Activity 7.1.* Assess global legal and illegal trade in leopard parts (TRAFFIC, CITES) and implement appropriate measures according to the findings.

*Activity 7.2.* Train law enforcement agents such as border guards and customs officials to combat illegal trade in leopards (cf. Objective 11).

*Activity 7.3.* Design and implement outreach campaigns targeting consumer groups.

**Objective 8.** Prey base conservation: To secure and enhance wild leopard prey populations through sustainable wildlife management.

*Activity 8.1.* Assess the extent and impact of illegal (bushmeat) hunting and the potential of legal subsistence hunting across the African leopard range.

*Activity 8.2.* Review, design and implement sustainable hunting practices and monitoring of prey populations where necessary.

*Activity 8.3.* Review control methods for crop-raiding prey and implement sustainable alternatives where needed.

*Activity 8.4.* Identify areas where prey populations are severely depleted or extinct and design projects to supplement and restore prey populations.

**Objective 9.** Habitat protection: To stop and reverse loss or destruction and fragmentation of habitat of leopard and their prey.

*Activity 9.1.* Identify and protect key leopard habitats and important corridors to promote connectivity between populations.

*Activity 9.2.* Assess the potential for habitat restoration and implement the findings.

*Activity 9.3.* Promote sustainable management of the consumption of fodder, forest products, fuel wood etc., and ecotourism and trophy hunting as an incentive to protect habitats for leopard and prey.

**Objective 10.** Legislation: To ensure appropriate legislative framework for maintaining viable leopard populations.

*Activity 10.1.* Review of legislative processes (e.g. laws, policies and capacity for implementation in range states) and law enforcement systems.

*Activity 10.2.* Ensure appropriate legislative framework for maintaining viable leopard populations.

**Objective 11.** Capacity development: To enable all actors/institutions involved in leopard conservation to fulfil their tasks.

*Activity 11.1.* Develop training modules and material for (1) monitoring of leopard and prey, (2) habitat management, (3) PA management, (4) law enforcement, (5) conflict mitigation.

*Activity 11.2.* Develop and implement a delivery plan for training.

*Activity 11.3.* Ensure existence of sufficient well-trained and well-equipped enforcement teams for implementation of enforcement.

**Objective 12.** Leopard partnership: To identify and foster partnerships and cooperation at continental and regional level for leopard conservation.

*Activity 12.1.* Implement this Roadmap under the governance structure to be developed in the frame of the Joint CMS-CITES African Carnivores Initiative (CMS & CITES 2018).

*Activity 12.2.* Assess the synergistic potential to cooperate with lion, cheetah and wild dog conservation programmes across Africa to advance leopard conservation.

*Activity 12.3.* Assess the need for additional/specific structures to ensure cooperation and sharing of information for leopard conservation and implement accordingly.

## 5.4 Conclusions

The Objectives and Actions listed above are identified in order to provide a basis for the development of more elaborated logistic frameworks (LogFrames) for RCS or NAPs. They are based on the leopard research up to date as compiled in this Roadmap, and on the experience in conservation programmes for other large cats. Although each species and each Range Country has its particularities that must be considered when defining concrete in situ measures, the basic threats and challenges, as well as the principle solutions are very similar for large carnivores and for different regions. The [joint CMS-CITES African Carnivores Initiative](#) – which explicitly searches

the cooperation with IUCN – offers a unique chance to also address the large-scale conservation of the leopard, which has been neglected in the shadow of the other charismatic large cats.

Furthermore, the conservation efforts under the ACI can be organised synergistically and thus help to use funding more efficiently. Among many other obstacles, the availability of funding is always a main obstacle to the implementation of conservation activities. This is true for all large cats, but most prominently for *Panthera pardus*.



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## Appendix I - Leopard density estimations

**Table A1.** Examples of leopard density estimates (adult/100 km<sup>2</sup>) in African Range States according to the literature.

| Country      | Study Area/Country  | Density<br>(adult/100 km <sup>2</sup> ) | Reference               |
|--------------|---|---|-------------------------|
| Botswana     | Ghanzi farmland   | 0.1                                     | Boast & Houser 2012     |
| Botswana     | Ghanzi region   | 0.48 (MMDM)<br>1.08 (HMMDM)             | Kent 2011               |
| Botswana     | Northern Tuli Game Reserve  | 7.5                                     | SLPRG 2010              |
| Botswana     | Central Kalahari Game Reserve   | 0.4                                     | CARACAL no date         |
| Botswana     | Kgalagadi Transfrontier Park  | 1.9–3.0                                 | CARACAL no date         |
| Botswana     | Okavango Delta, Kwando area   | 1.5                                     | CARACAL no date         |
| Botswana     | Okavango Delta, Moremi area   | 3.2                                     | CARACAL no date         |
| Cameroon     | Bénoué Complex (Bénoué NP, Bobandjida NP and Faro NP) and hunting zones | 1.31                                    | Bauer et al. 2016       |
| Gabon        | Lope and Ivindo NPs   | 2.7–12.1                                | Henschel 2008           |
| Ghana        | Mole NP   | 2–2.9                                   | Brashares & Sam 2005    |
| Ivory Coast  | Taï NP  | 7–11                                    | Jenny 1996              |
| Kenya        | Mpala ranch   | 8.4–12                                  | O'Brien & Kinnaird 2011 |
| Mozambique   | Niassa National Reserve (NR)  | 2.18–12.65                              | Jorge 2012              |
| Mozambique   | Xonghile GR   | 1.53                                    | Strampelli 2015         |
| Namibia      | Waterberg plateau farmland  | 3.6                                     | Stein et al. 2011       |
| Namibia      | Waterberg Plateau Park  | 1.0                                     | Stein et al. 2011       |
| Namibia      | Bwabwata NP   | 1.18 and 2.4                            | Funston et al. 2014     |
| Namibia      |   | 1.2–3.1                                 | Stein et al. 2012       |
| Namibia      | Kalahari, tree–savannah   | 0.19                                    | Kent 2011               |
| Namibia      | Kalahari, dune–savannah   | 0.6                                     | Kent 2011               |
| Senegal      | Niokolo Koba NP   | 2.0–4.0                                 | Kane et al. 2015        |
| South Africa | Phinda–Mkhuze Complex   | 2.5–11.1                                | Balme et al. 2010a,b    |
| South Africa | Kruger NP   | 12.7                                    | Maputla et al. 2013     |
| South Africa | Soutpansberg mountains  | 10.7                                    | Chase-Grey et al. 2013  |
| South Africa | Soutpansberg mountains  | 3.65                                    | Williams et al. 2017    |
| South Africa | Cederberg mountains   | 0.25–2.3                                | Martins 2010            |
| South Africa | Karongwe private game reserve   | 18.8                                    | Owen et al. 2010        |
| South Africa | Northern Kwazulu–Natal  | 12.7                                    | Maputla et al. 2013     |
| South Africa | Zululand Rhino Reserve  | 2.5–7.0                                 | Chapman & Balme 2010    |
| Tanzania     | Tarangire NP  | 7.9                                     | Msuha 2009              |
| Zambia       | Luambe NP and Game Management Area Chanjuzi                             | 3.36 (NP only), 4.79                    | Ray 2011                |
| Zimbabwe     | Savé Valley Conservancy   | 7.6                                     | Williams et al. 2016    |
| Zimbabwe     | Northeastern part of Hwange NP  | 1.46                                    | Loveridge et al. 2017   |
| Zimbabwe     | Mangwe district,  | 1–7                                     | Grant 2012              |
| Zimbabwe     | Gonarezhou NP   | 8.3                                     | Groom & Brand 2011      |

## Appendix II - Distribution categories according to the IUCN Red List

*Extant:* The species is known or thought very likely to occur currently in the area, which encompasses localities with current or recent (last 20–30 years) records where suitable habitat at appropriate altitudes remains;

*Possibly Extant:* There is no record of the species in the area, but the species may possibly occur, based on the distribution of potentially suitable habitat at appropriate altitudes, although the area is beyond where the species is Extant (i.e., beyond the limits of known or likely records), and the degree of probability of the species occurring is lower (e.g., because the area is beyond a geographic barrier, or because the area represents a considerable extension beyond areas of known or probable occurrence). Identifying Possibly Extant areas is useful to flag up areas where the taxon should be searched for;

*Possibly Extinct:* The species was formerly known or thought very likely to occur in the area (post 1500 AD), but it is most

likely now extirpated from the area because habitat loss and/or other threats are thought likely to have extirpated the species, and there have been no confirmed recent records despite searches;

*Extinct:* The species was formerly known or thought very likely to occur in the area (post 1500 AD), but it has been confirmed that the species no longer occurs because exhaustive searches have failed to produce recent records, and the intensity and timing of threats could plausibly have extirpated the taxon;

*Presence uncertain:* A record exists of the species' presence in the area, but this record requires verification or is rendered questionable owing to uncertainty over the identity or authenticity of the record, or the accuracy of the location.

(Source: IUCN Red List Technical Working Group 2018)