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|  | **CONVENTION ON**  **MIGRATORY**  **SPECIES** | UNEP/CMS/COP14/Doc.29.2.2  26 May 2023  English  Original: French |

14th MEETING OF THE CONFERENCE OF THE PARTIES

Samarkand, Uzbekistan, 12 – 17 February 2024

Agenda Item 29.2

**SAHELO-SAHARAN MEGAFAUNA**

*(Prepared by the Government of Morocco)*

Summary:

This document proposes an amendment to Resolution 9.21 (Rev.COP13) Sahelo-Saharan Megafauna to establish a Sahelo-Saharan Megafauna Initiative and presents for adoption the SSMF Initiative work plan.

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

**SAHELO-SAHARAN MEGAFAUNA**

Background

*Evolution of the Concerted Action for Sahelo-Saharan Megafauna*

1. The Fourth Meeting of the CMS Conference of the Parties (COP4, Nairobi, Kenya) adopted [Recommendation 4.5](https://www.cms.int/sites/default/files/document/Rec4.5_E_0_0.pdf) on Concerted Action for Sahelo-Saharan Ungulates in 1994. The objective of this Concerted Action was to encourage the 15 Range States (Algeria, Burkina Faso, Chad, Egypt, Ethiopia, Libya, Mali, Mauritania, Morocco, Niger, Nigeria, Senegal, South Sudan, Sudan and Tunisia) to develop and implement an action plan. This plan was developed based on the diagnosis and analysis of conservation status reports for the various species and their habitats, and was structured into objectives, programmes and activities at both species and Range State level.
2. In 2008, CMS COP9 (Rome, Italy) adopted [Recommendation 9.2](https://www.cms.int/sites/default/files/document/Rec_9_02_Sahelo_Saharan_En.pdf) renaming the Concerted Action for Sahelo-Saharan Ungulates as Concerted Action for Sahelo-Saharan Megafauna and extending it to other species of large mammals occurring within the area of the Concerted Action. The aim was to cover all threatened large migratory mammals of the temperate and cold deserts, semi-deserts, steppes and associated mountains of the Sahelo-Saharan region, and include an Action Plan and status reports for all species concerned.
3. In 2020 CMS COP13 in Gandhinagar, India adopted [Concerted Action 13.4](https://www.cms.int/en/document/concerted-action-sahelo-saharan-megafauna) for Sahelo-Saharan Megafauna extending the Concerted Action to include the CMS Appendix I listed Red-fronted Gazelle (*Eudorcas rufifrons*) and CMS Appendix II listed Barbary Sheep (*Ammotragus lervia*). The inclusion of the additional species resulted in the inclusion of Eritrea in the geographical coverage of the Concerted Action.
4. [Concerted Action 13.4](https://www.cms.int/en/document/concerted-action-sahelo-saharan-megafauna) also invites the Range States and other stakeholders to discuss at the Third Regional Seminar, the future directions of the Sahelo-Saharan Megafauna Concerted Action including its operational arrangements, identifying that lessons could be learned from existing Initiatives such as the Central Asian Mammals Initiative.
5. Special species initiatives provide a framework for cooperation between the Range States of the species concerned to strengthen species protection and improve their conservation status. Initiatives in place, such as the Central Asian Mammals Initiative (CAMI), have enabled better coordination of conservation activities in the regions covered by the initiative, and made it possible to consistently address the main threats to the migratory species concerned.
6. The conservation of the Sahelo-Saharan megafauna and their habitats requires regional cooperation and coordination to implement species conservation and management actions and measures. Like the Central Asian Mammals Initiative (CAMI), the establishment of a Sahelo-Saharan Megafauna Initiative (SSMFI) as a long-term cooperation mechanism for the conservation of Sahelo-Saharan megafauna is an opportunity to be explored in order to strengthen the quality of collaboration between States for better conservation of the Megafauna species.
7. Establishing the SSMFI similar to CMAI would provide a common strategic and governance framework for action at international level to conserve migratory mammals and their habitat in the region. It could bring together and harmonize the implementation of existing mandates under the CMS and the Action Plan, discussed during this meeting, as well as initiatives undertaken by partners. It would focus on promoting synergies between existing stakeholders, as well as on sharing communication and strengthening cooperation across sectors and borders.

*Sahel & Sahara Interest Group*

1. The potential for synergies with existing initiatives in the region such as the Sahel & Sahara Interest Group (SSIG) could be beneficial to the conservation efforts of the Sahelo-Saharan megafauna species and their habitats. The SSIG is an independent, non-governmental and apolitical association, set up, organized, and moderated by SaharaConservation. It is composed of members from a wide range of institutions, including research centres, zoos and zoological associations, museums, IUCN Specialist Groups, NGOs, government and inter-governmental agencies, studbook keepers, species survival coordinators (Species Survival Plan and European Endangered Species Programme), and universities. The SSIG boasts a broad range of wildlife management and conservation expertise and disciplines.
2. Although it is not a formal membership organization, SSIG plays a unique role as a forum for experts to share scientific information, provide updates on work undertaken, discuss projects for the coming year and build strong partnerships for Sahelo-Saharan conservation through its annual meetings. One of the SSIG’s main aims is to promote and contribute tangibly to the implementation of CMS mandates in the region and beyond.
3. The SSIG could be a natural partner to the SSMFI providing a pool of species’ expertise as well as expertise on the threats facing the species such as climate change, desertification, poaching and pastoralism. Focal points for each species and threat could be established to provide technical support on the implementation of the SSMFI.
4. Furthermore, SSIG annual meetings could be organized in conjunction with the meetings of the Range States of the Sahelo-Saharan megafauna species every three years, merging the leading scientific and policy meetings related to Sahelo-Saharan Megafauna.

Discussion and analysis

1. At the Third Regional Seminar on the Conservation and Restoration of Sahelo-Saharan Megafauna held in Agadir, Morocco in March 2023, the Range States and other stakeholders were invited to discuss the future directions of the Sahelo-Saharan Megafauna Concerted Action The Range States unanimously agreed on the benefits of the establishment of the SSMFI and the Government of Morocco stated that they would propose a resolution for the establishment of the SSMFI at COP14. Draft amendments to Resolution 9.21 (Rev.COP13) Sahelo-Saharan Megafauna establishing the SSMFI can be found Annex 1 to this document.

Recommended actions

1. The Conference of the Parties is recommended to:
2. adopt the draft amendments to Resolution 9.21 (Rev.COP13) contained in Annex 1 of this document;
3. adopt the programme of work contained in Annex 2, developed during the Third Regional Seminar on the Conservation and Restoration of Sahelo-Saharan Megafauna, which lists all the actions and measures required and to be implemented for the conservation of the Sahelo-Saharan megafauna species.

**Annex 1**

PROPOSED AMENDMENTS TO RESOLUTION 9.21 (Rev.COP13)

**SAHELO-SAHARAN MEGAFAUNA INITIATIVE**

*Recalling* Recommendations 4.5 *Concerted Action for Six Appendix I Species of Sahelo-Saharan Ungulates* and 9.2 *Sahelo-Saharan Megafauna*[[1]](#footnote-2),

*Recognizing* that the large mammal fauna of the arid lands of the Sahelian and Saharan regions of Africa ~~North Africa~~ ~~and Eurasia~~ ha~~s~~ve many species with threatened populations that are in a profoundly unsatisfactory, and often critical, state of conservation,

*Noting with satisfaction* the progress made by ~~this~~ the Sahelo-Saharan Megafauna ~~Ungulates~~ Concerted Action,

*~~Acknowledging in particular~~* ~~the paramount contribution of the Sahara Conservation Fund and its partners to improve the conservation and the restoration of Sahelo-Saharan megafauna in particular in Niger and Chad,~~

*Conscious* that the arid lands of the Sahelian and Saharan regions of Africa, with their exceptional natural and cultural heritage and their unique migration phenomena, are a crucial area for the action of the Convention,

*Recalling* that several species found in that biome are on Appendix I of the Convention,

*~~Noting~~* ~~that recommendation 4.5 adopted by the Conference of the Parties at its Fourth Meeting (Nairobi, 7-11 June 1994) requested that the Scientific Council, in cooperation with the Secretariat, establish a Concerted Action for Sahelo-Saharan Ungulates,~~

*~~Taking into account~~* ~~the intersessional process on the future shape of CMS, and conscious that the development of new instruments is to be linked to this process,~~

*Recalling* the decisions under the Future Shape process, including activities 8 and 15 under Resolution 10.09 *Future Structure and Strategies of the CMS and CMS Family* urging Parties to “identify opportunities for cooperation and coordination at the local and regional level through the creation of synergies based on geography”, and “to seek opportunities to develop synergistic relationships either based on geography or species clustering“, such as with the development of a common conservation programme,

*~~Acknowledging~~* ~~the recommendation of the 14th and 15th meetings of the Scientific Council that the Sahelo-Saharan Ungulates Concerted Action be continued and extended to other species of large mammals occurring within the area of the Concerted Action.~~

*Acknowledging* the recommendations of the 6th Meeting of the Sessional Committee of the Scientific Council that the Sahelo-Saharan Megafauna Concerted Action be closed, and a Sahelo-Saharan Megafauna Initiative be established that extends to the Danakil and adjoining desert and semidesert, adding the African Wild Ass (*Equus africanus*) to the Initiative as well as Soemmerring's Gazelle (*Nanger soemmerringii*) should it be listed on CMS,

*Recognizing* the successes of the Central Asian Mammals Initiative (CAMI) in strengthening the conservation of Central Asian migratory mammals through a common framework to coordinate conservation activities in the region and to coherently address major threats to migratory species) as an example for a Sahelo-Saharan Megafauna Initiative,

The Conference of the Parties to the

Convention on the Conservation of Migratory Species of Wild Animals

1. *Establishes* the Sahelo-Saharan Megafauna Initiative (SSMFI) covering the Addax (*Addax nasomaculatus*), African Wild Ass (*Equus africanus*), Barbary Sheep (*Ammotragus lervia*) Cuvier's Gazelle (*Gazella cuvieri*), Dama Gazelle (*Nanger dama*), Red-fronted Gazelle (*Eudorcas rufifrons*) Scimitar-horned Oryx (*Oryx dammah*), Slender-horned Gazelle (*Gazella leptoceros*), and Dorcas Gazelle (*Gazella dorcas*), occurring in the Sahel, Sahara, and Danakil Desert and adjoining desert and semidesert, with Algeria, Burkina Faso, Chad, Egypt, Eritrea, Ethiopia, Libya, Mali, Mauritania, Morocco, Niger, Nigeria, Senegal, South Sudan, Sudan and Tunisia as the Range Sates of the Initiative.

0-bis *Adopts* the Action Plan for the Sahelo-Saharan Megafauna Initiative, including the species-specific plans, contained in the Annex to this Resolution;

0.-ter *Instructs* the Secretariat to take up the role of coordinating the Initiative and implementation of the Action Plan and to convene regular Range State meetings to monitor the implementation of the Action Plan, revise the Action Plan as necessary and monitor the functionality of the Initiative;

1. *Encourages* Range States and other interested Parties to prepare, in cooperation with the Scientific Council and the Secretariat, the necessary proposals to include in Appendix I or Appendix II threatened species that would benefit from the Initiative ~~Concerted Action~~;
2. *Encourages* the Secretariat to pursue efforts to bring into the Convention, Range States of the Sahelo-Saharan fauna that are not yet Parties, ~~and to liaise with other concerned Conventions to enhance synergies;~~

*2-*bis *Encourages* the Secretariat to establish and strengthen partnerships with relevant organizations including the Food and Agriculture Organization of the United Nations, the United Nations Development Programme, the Convention on Biological Diversity, the Convention to Combat Desertification, the Great Green Wall Initiative, the World Bank, and other intergovernmental and non-governmental organizations;

*2-*ter *Encourages* the Secretariat to collaborate with the Sahel and Sahara Interest Group to support the Initiative with technical advice;

1. *Urges* Parties to apply an ecosystem approach and to strengthen efforts to conserve and restore habitats for Sahelo-Saharan megafauna, in particular, in the context of the United Nations Decade on Ecosystem Restoration (2021–2030);
2. *Urges* Non-Party Range States to support the SSMFI ~~Concerted Action~~, in recognition of its global significance;

*4-*bis *Requests* the Secretariat to report on the implementation of this Resolution to each meeting of the Conference of the Parties, as appropriate.

**ANNEX 2**

**ACTION PLAN FOR SAHELO-SAHARAN MEGAFAUNA**

This Action Plan aims to frame the actions and measures to be undertaken for the conservation of Sahelo-Saharan Megafauna (SSFM) species, in all the environments where they occur (wild, reintroduced, semi-captive and captive), aligned with strategies already developed for other species.

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# **REGIONAL-LEVEL ACTION PLAN**

|  |  |  |
| --- | --- | --- |
| **1. Policy and legal** | **Indicators** | **Actors** |
| 1.1. Review, strengthen and make accessible legal frameworks in relation to species and habitats conservation and align with CMS obligations, also working through the CMS National Legislation Programme. |  |  |
| 1.2. Include the conservation of SSMF species and their habitats in the National Biodiversity Strategy and Action Plans (NBSAPs) – the Convention on Biological Diversity’s (CBD) national implementation instruments. |  |  |
| 1.3. Mainstream SSMF conservation across all appropriate government sectors, including agriculture, infrastructure, mining/excavation, water, tourism, defence. |  |  |
| 1.4. Comply with CMS, CITES and CBD obligations (including the Global Biodiversity Framework) on harvest, use and trade. |  |  |
| 1.5. Encourage the development of public-private partnerships. |  |  |
| **2. Ecosystem management** |  |  |
| 2.1. Identify and map important habitats and corridors for SSMF. |  |  |
| 2.2. Include the conservation of SSMF habitats in integrated land use planning (CBD Global Biodiversity Framework (GBF) Target 1). |  |  |
| 2.3. Restore important SSMF sites in compliance with CMS obligations (GBF Target 2). |  |  |
| 2.4. Develop integrated grazing management programmes with local communities at key sites. |  |  |
| 2.5. Ensure sustainable water management and in particular avoid the digging of new water wells in protected areas and other sites important for SSMF species. |  |  |
| 2.6. Engage the mining sector in the implementation of SMFF conservation projects. |  |  |
| 2.7. Conduct Environmental and Social Impact Assessments (ESIAs) for development projects according to CMS obligations and international and national standards. |  |  |
| **3. Site protection** |  |  |
| 3.1. Review/expand protected area networks for adequate coverage of SSMF populations and important corridors to meet CBD GBF Target 3. |  |  |
| 3.2. Develop/update and implement protected area management plans of protected areas with SSMF species. |  |  |
| 3.3. Promote transboundary protected areas for SSMF species |  |  |
| **4. Species action (GBF Target 4)** |  |  |
| 4.1. Establish the current status of all species. |  |  |
| 4.2. Take urgent action to prevent the extinction of the most threatened species. |  |  |
| 4.3. Protect known populations of all species effectively. |  |  |
| 4.4. Reintroduce or reinforce depleted populations. |  |  |
| 4.5. Adopt the One Plan approach to *ex situ* and *in situ* management. |  |  |
| 4.6. Reinforce scientific research actions. |  |  |
| **5. Community engagement** |  |  |
| 5.1. Consolidate/update/develop and implement community programmes on SSMF species. |  |  |
| 5.2. Involve, in a participatory manner, local communities in the management of protected areas and value local practices and know-how in relation to SSMF species and habitats. |  |  |
| 5.3. Promote intercommunity dialogue and income-generating activities. |  |  |
| 5.4. Encourage community initiatives for the conservation and valorisations of SSMF. |  |  |
| **6. Education, awareness-raising, and communication** |  |  |
| 6.1. Conduct awareness-raising campaigns for local communities and the general public on SSMF and the need for conservation of species and habitats in all key zones through targeted workshops and media. |  |  |
| 6.2. Engage/raise awareness of the hunting, education and tourism sectors on the SSMF and the need for conservation of species and habitats. |  |  |
| 6.4. Raise awareness of SSMF species among regional officials, police, judiciary customs, and military. |  |  |
| **7. Climate Change** |  |  |
| 7.1. Conduct assessments on climate change vulnerability and adaptation capacity of SSMF species. |  |  |
| 7.2. Identify the impacts of climate change on SSMF species and habitats. |  |  |
| 7.3. Implement the adaptive capacity of SSMF species to extreme climatic conditions. |  |  |
| **8.** **Means of implementation** |  |  |
| 8.1. Work towards the provision of adequate equipment and technology to conserve SSMF species effectively. |  |  |
| 8.2. Reinforce capacities in all technical aspects required for the implementation of the regional action plan and the species-specific action plans. |  |  |
| 8.3. Reinforce resource mobilisation capacity for the implementation of the action plan. |  |  |
| **9. Regional cooperation** |  |  |
| 9.1. Reinforce bilateral and multilateral cooperation on the conservation of transboundary populations of SSMF species including the exchange of best practices. |  |  |
| 9.2. Encourage transboundary initiatives and promote coordination in the fight against poaching. |  |  |
| 9.3. Develop a regional SSMF species database supported by an information exchange mechanism. |  |  |
| 9.4. Work to integrate SMFF conservation activities into regional initiatives including the Great Green Wall. |  |  |

# **B SPECIES-SPECIFIC ACTION PLANS**

## Addax (*Addax nasomaculatus)*

| **Objective / Action** | **Indicator** | **Urgency** | **Implementation** |
| --- | --- | --- | --- |
| **Objective 1. The wild addax population is effectively protected and monitored.** | | | |
| 1.1. Establish status |  |  |  |
| 1.1.1. Conduct regular patrols between Termit and the Chad border (vehicle, camel, air) | Patrol schedule agreed and funded |  |  |
| 1.1.2. Conduct patrols and information collection on the Chad side of the border | Patrol schedule agreed and funded  Community reporting system agreed |  |  |
| 1.1.3. Conduct satellite collaring operation in late 2023 | Réalisation d'une enquête préparatoire  Addax avec collier et suivi |  |  |
| 1.1.4. Survey the ergs between TTNNR and Aïr and Ténéré National Nature Reserve (ATNNR) (from the air and on the ground) | Survey reports |  |  |
| 1.1.5. Maintain records on a central database | Database and map established |  |  |
| 1.2. Enhance the effectiveness of antipoaching |  |  |  |
| 1.2.1. Increase capacity of DFCPR | Training sessions for rangers held  Sufficient vehicles and motorcycles available  Equipment and technology available |  |  |
| 1.2.2. Involve the Nigerien military in conservation activities | Inter-ministerial agreement signed |  |  |
| 1.2.3. Conduct military patrols along the main highway corridors | Regular patrols take place |  |  |
| 1.2.4. Provide training for military personnel | Training sessions held |  |  |
| 1.3. Minimise the impact of oil production on Addax |  |  |  |
| 1.3.1. Secure a formal agreement with the Ministry of Petroleum and the oil companies on joint activities | Memorandum of Understanding (MoU) signed |  |  |
| 1.3.2. Assess the potential impacts on the Addax of the proposed route of the Chad-Niger oil pipeline | Impact assessment produced |  |  |
| 1.4. Consolidate community engagement |  |  |  |
| 1.4.1. Secure agreements with key communities  in the Addax zone | Outreach meetings held  MoUs signed  Communities actively involved |  |  |
| 1.4.2. Develop a standardised system of community reporting | Community reporting system agreed  Regular reports submitted |  |  |
| 1.4.3. Work with the Préfets to prevent issue of permits for digging new water wells in key areas |  |  |  |
| 1.4.4. Work with the Préfets to destroy unauthorised water wells in key areas | Wells destroyed |  |  |
| **Objective 2. The status of the species in the wild is established and known populations are monitored and protected** | | | |
| 2.1. Chad (Eguey and Siltou) |  |  |  |
| 2.1.1. Conduct air and ground surveys | Surveys completed |  |  |
| 2.2.2. Work with communities on conservation | Outreach meetings held |  |  |
| 2.2.3. Strengthen capacity of DCFAP | Capacity needs assessment conducted |  |  |
| 2.2. Mauritania |  |  |  |
| 2.3.1. Conduct questionnaire and field surveys | Surveys completed |  |  |
| **Objective 3. Addax are successfully reintroduced to suitable sites within their former range** | | | |
| 3.1. Consolidate reintroduction in Morocco |  |  |  |
| 3.1.1. Continue the scheduled release programme | Population growth and expansion |  |  |
| 3.1.2. Maintain the monitoring programme | Analysis of results (reproduction, movements, habitat use) |  |  |
| 3.1.3. Consolidate community engagement | MoUs renewed |  |  |
| 3.1.4. Minimise effects of tourist disturbance on Addax | Dune-driving exclusion zones designated  Tourism operators engaged  Awareness programmes developed |  |  |
| 3.2. Consolidate reintroduction in OROA (Chad) |  |  |  |
| 3.2.1. Continue the scheduled release programme | Population growth and expansion |  |  |
| 3.2.2. Maintain the monitoring programme | Analysis of results (reproduction, movements, habitat use) |  |  |
| 3.2.3. Consolidate community engagement | MoUs renewed |  |  |
| 3.3. Consolidate reintroduction in Tunisia |  |  |  |
| 3.3.1. Resolve current issues at each site | Population growth and expansion |  |  |
| 3.3.2. Maintain the monitoring programme | Analysis of results (reproduction, movements, habitat use) |  |  |
| 3.4. Conduct reintroduction in Ennedi (Chad) | Addax released |  |  |
| 3.5. Conduct feasibility studies on other reintroductions | - Studies completed  - Potential release sites identified |  |  |
| **Objective 4.** **The** **genetic diversity of Addax is maximised and the management of** ***ex situ* addax populations is optimised to support *in situ* conservation** | | | |
| 4.1 *In situ* |  |  |  |
| 4.1.1. Capture wild individuals to retain their unique genetic diversity | Addax captured and transferred to breeding centre |  |  |
| 4.1.2. Establish a captive breeding centre in Niger | - Centre constructed  - Staff trained in husbandry  - Breeding plan developed |  |  |
| 4.1.3. Integrate the wild-caught female at Kelle into the breeding programme | Female breeds successfully |  |  |
| 4.1.4. Integrate privately owned captive Addax into the breeding programme | Animals located and integrated |  |  |
| 4.1.5. Continue genetic and genomic research | Analyses conducted |  |  |
| 4.1.6. Develop a global plan to ensure maximal retention of genetic diversity | Plan completed |  |  |
| 4.1.7. Prioritise biobanking, cell line generation, reproductive technologies, and movement of germ cells | Strategies developed |  |  |
| 4.2 *Ex situ* |  |  |  |
| 4.2.1. Maintain and expand coordinated breeding programmes | - Increased number of participating institutions  - Increased number of Addax included in programmes |  |  |
| 4.2.2. Integrated *in situ* and *ex situ* management under a ‘One Plan Approach’ | Integrated plan produced |  |  |
| 4.2.3. Maintain the Souss-Massa population as a regional source for reintroductions | Breeding continues |  |  |
| 4.2.4. Improve integration of molecular genetic data into population viability modelling and management strategies | Results incorporated |  |  |
| **Objective 5. Local communities are involved in all addax conservation projects and awareness of addax conservation is raised at all levels.** | | | |
| 5.1 Local communities |  |  |  |
| 5.1.1. Maintain existing community programmes | Outreach meetings held |  |  |
| 5.1.2. Establish community programmes in areas of new operations | - Outreach meetings held  - Community agreements signed |  |  |
| 5.2 Awareness raising |  |  |  |
| 5.2.1. Distribute information to the public through the press, TV, and social media | Messages, articles, posts sur les médias sociaux publiés |  |  |
| 5.2.2. Raise awareness of Addax conservation among local communities in all key zones | Organisation de sessions de sensibilisation |  |  |
| 5.2.3. Raise awareness of the Addax situation among regional officials, police, customs and military. | Joint meetings |  | Government agencies, NGOs |

## Scimitar-horned Oryx (*Oryx dammah*)

| **Objective / Action** | **Indicator** | **Urgency** | **Implementation** |
| --- | --- | --- | --- |
| **Objective 1. The reintroduction of Scimitar-horned Oryx into the wild** | | | | |
| 1.1. The reintroduced population in Chad is sustainable in the long-term |  |  |  |
| 1.1.1. Continue release programme in OROA | Population growth and range expansion  Lower category of threat on IUCN Red List |  |  |
| 1.1.2. Ensure effective protection | Patrol schedule agreed and funded  Training sessions for rangers held  Sufficient vehicles and motorcycles available  Equipment and technology available |  |  |
| 1.1.3. Increase capacity of DCFAP | Patrol schedule agreed and funded |  |  |
| 1.1.4. Continue satellite, aerial, ground monitoring | Survey reports  Analyses conducted |  |  |
| 1.1.5. Consolidate community engagement | Community reporting system maintained  Community workshops held  Agreements signed in areas of Scimitar-horned Oryx expansion |  |  |
| 1.1.6. Avoid construction of new water wells in key zones | Key zones mapped  No new wells constructed  Unauthorised wells destroyed |  |  |
| 1.2. Scimitar-horned Oryx are reintroduced succesfully in new sites |  |  |  |
| 1.2.1. Morocco |  |  |  |
| 1.2.1.1. Implement the scheduled release programme | Oryx released |  |  |
| 1.2.1.2. Develop a monitoring programme | Programme developed |  |  |
| 1.2.1.3. Secure community engagement | Community workshops  MoUs agreed |  |  |
| 1.2.2. Niger |  |  |  |
| 1.2.2.1. Implement the proposed release in Gadabedji BR | Oryx released |  |  |
| 1.2.2.2. Develop a monitoring programme | Programme developed |  |  |
| 1.2.2.3. Secure community engagement | Community workshops  MoUs agreed |  |  |
| 1.2.3. Conduct feasibility studies on other reintroductions | Studies completed  Potential release sites identified |  |  |
| 1.2.4. Put in place the required conditions for further introductions |  |  |  |
| **Objective 2. Consolidate the** **reintroduced populations in semi-captivity in Tunisia and Senegal** | | | | |
| 2.1. Tunisia |  |  |  |
| 2.1.1. Develop metapopulation management programme | Increase in numbers at each site |  |  |
| 2.1.2. Conduct regular monitoring | Results available (numbers, reproduction, habitat use) |  |  |
| 2.1.3. Establish corridors between sites | Corridors mapped |  |  |
| 2.1.4. Release oryx into the wider landscape | Oryx released |  |  |
| 2.1.5. Secure community engagement | Community workshops  MoUs agreed |  |  |
| 2.1.6. Strengthen capacity of DGF | Capacity needs assessment conducted  Training workshops held |  |  |
| 2.2. Senegal |  |  |  |
| 2.2.1. Develop the Katane population | Increase in numbers |  |  |
| 2.2.2. Conduct regular monitoring | Results available (numbers, reproduction, habitat use) |  |  |
| 2.2.3. Expand the Katane enclosure | Expanded enclosure constructed |  |  |
| 2.2.4. Restore habitat in Ferlo Reserve | Key areas restored |  |  |
| 2.3.5. Release oryx into the wider landscape | Oryx released  Community agreements signed |  |  |
| 2.2.6. Strengthen capacity of DGF | Capacity needs assessment conducted  Training workshops held |  |  |
| **Objective 3. The** **genetic diversity of Scimitar-horned Oryx is maximised and the management of** ***ex situ* populations is optimised to support *in situ* conservation** | | | |
| 3.1. Continue genetic and genomic research | Analyses conducted |  |  |
| 3.2. Develop a global plan to ensure maximal retention of genetic diversity | Plan completed |  |  |
| 3.3. Prioritise biobanking, cell line generation, reproductive technologies, and movement of germ cells | Strategies developed |  |  |
| 3.3. Maintain and expand coordinated breeding programmes | - Increased number of participating institutions  - Increased number of Scimitar-horned Oryx included in programmes |  |  |
| 3.4. Integrated *in situ* and *ex situ* management under a ‘One Plan Approach’ | Integrated plan produced |  |  |
| 3.5. Maintain the Souss-Massa National Park population as a regional source for reintroductions | Breeding continues |  |  |
| 3.6. Improve integration of molecular genetic data into population viability modelling and management strategies | Results incorporated |  |  |

## Dama Gazelle (*Nanger dama*)

Updated objectives and actions for Dama Gazelle (*Nanger dama*) conservation (2021-2028). (From the 2.5 year review, 2021)[[2]](#footnote-3)

| **Objective / Action** | **Indicator** | **Timeline/ Urgency** | **Implementation** | **Update** | **Notes/Comments** | **Updated by: Institution (Individual)** |
| --- | --- | --- | --- | --- | --- | --- |
| **WILD** | | | | | | |
| **Objective 1. Monitor wild populations effectivel** | | | | | | |
| 1.1. Chad: Wadi Rimé-Wadi Achim Faunal Reserve (OROA) | Survey results | Ongoing | DCFAP, SCF |  | * Systematic population monitoring hampered by restrictions on travel due to Covid * Local opportunistic record keeping on going * Numbers are stable * Aerial survey is on track for Nov 2021 | SCF / DCFAP (VB,JN,MHH) |
| 1.2. Chad: Manga | Survey results | 2019-2020 | Noé, DCFAP, SCF | Achieved over the period 2019 – 2020. No more funding from 2021. | Noé research effort in the Manga:   * 13 research missions in the border area (2018 - 2020) * 4 community agents in place, 220 person/days of patrols between 2019 and 2020 * Worked on capture and translocation of 3 dama gazelles from Manga to OROA with partners * 2 groups of dama gazelles present on the basis of local reports, without real estimate of the size of the groups * Groups may be connected to each other? Other groups may be present? * Estimate 10 to 20 individuals? 30 maximum? | Noé (SP) |
| 1.3. Chad: Alifa-Ati | Survey results | L | DCFAP, SCF |  | * No news since 2017 because of local insecurity linked to illegal gold mining * Area cannot be accessed | SCF / DCFAP (VB, JN, MHH) |
| 1.4. Niger: Aïr and Ténéré National Nature Reserve (ATNNR) | Survey results | H | DFCPR, SCF | Ongoing | * Regular field monitoring ongoing (two missions per year) * 2 eco-guards on site for monitoring, awareness raising * Use of camera traps finalized in 2020; data analysis/image processing ongoing * Observed intensification of human activities on the massif (small-scale gold mining); increased signs of motorbikes * Poaching occurs in the area (direct evidence of poaching of a Dorcas gazelle collected in 2020 by field team) * A PhD research project (University of Prague) is being carried out on the Dama in Aïr * Recommendations on conservation and management are being made to the Governmental authorities * Need to reinstall the camera traps for an additional year * Dama gazelles are confined to sub-optimal mountain habitats * 12 dama gazelles, including 4 very young individuals, were observed on Mount Takolokouzet in late May / early June 2021 as reported to AR (SCF) by a community guard on site | SCF (VB, JN, AR) |
| 1.5. Niger: Termit and Tin-Toumma National Nature Reserve (TTNNR) | Survey results | H | Noé Conservation, DFCPR | Ongoing | * Permanent, regular monitoring of the population of the Termit massif * Population census planned for Q2 2021 * Increasing observations of dama gazelles in the valleys and not on the foothills of the Termit massif -> sign of the recolonisation of habitats near the Termit massif? * Population census planned for Q2 2021 * Census scheduled every 2 years * Regular observations with up to more than 20 distinct individuals recorded during these missions * No poaching activity recorded in the Termit massif (2019/2020) * Population to be re-estimated (awaiting results of the planned census Q2 2021) | Noé (SP) |
| 1.6. Niger, Western: Tamesna plains |  |  |  |  |  |  |
| 1.6.1. Establish local contacts | Contacts established  Local reporting system | L-M | DFCPR |  | * Region too insecure |  |
| 1.7. Mali: Tamesna |  |  |  |  |  |  |
| 1.7.1. Establish local contacts | Contacts established  Local reporting system | M | Government  agency, NGO |  | * Region too insecure |  |
| 1.8. Algeria: follow-up local reports | Results available | L-M | ANN, DGF |  |  |  |
| 1.9. Sudan: follow-up local reports and survey former range when feasible | Results available | L | SWS, ASG, Government  agency |  |  |  |
| 1.10. Provide training in survey and monitoring methods for all range states | Training courses conducted | M | Government agencies, NGOs | Ongoing (Morocco) |  | DEF (LS) |
| ~~1.11. Produce ID card for local use~~ | ~~ID card produced and distributed~~ | ~~L~~ | ~~ASG~~ | Dropped | * No longer a priority | ASG (DM) |
| **Objective 2. Secure and expand key wild populations** | | | | | | |
| 2.1. Niger, Aïr and Ténéré NNR: follow recommendations in DCFAP et DFCPR (2017) | Recommendations implemented | H | DFCPR |  | * Surveillance needs to be increased for dama gazelles to return to their more optimal habitat in the wadis | SCF (AR) |
| 2.2. Niger, Termit and Tin-Toumma NNR: follow recommendations in DCFAP et DFCPR (2017) | Recommendations implemented | H | Noé Conservation, DFCPR | Ongoing | * Termit massif is fully protected * 200 person/days of anti-poaching patrols in the TTNNR * 2500 person/days of community patrols in the RNNTT * No poaching observed on dama gazelles (2019/2020) nor traces of vehicles / motorcycles in the eastern part of the Termit massif (in 2020) * Permanent establishment of management resources in the Termit massif (camp, permanent patrol system, camera trap grid, aerial surveillance system from Q2 * Boundaries of RNNTT were changed in July 2019 and amended in January 2021 to reincorporate the entire Termit massif | Noé (SP) |
| 2.3. Chad, OROA: follow recommendations in DCFAP et DFCPR (2017) | Recommendations implemented | H | DCFAP, EAD, SCF | Ongoing | * The species is incorporated into the signed, funded and ongoing project on the conservation of endangered species | SCF (VB, JN) |
| 2.4. Incorporate Dama Gazelle conservation in all site management plans (MPs) | MPs produced | M | Government agencies |  |  |  |
| 2.5. Monitor route of the Great Green Wall and potential impact on movements of dama gazelle | Recommendations on changes to route made to governments, as appropriate | L |  | New | * See Naia, M. et al (2021) for possible impacts of the GGW on the dama gazelle |  |
| **Objective 3. Reintroduce to new sites** | | | | | | |
| 3.1. Niger, Gadabedji BR: conduct feasibility study | Study produced | M | DFCPR, SCF |  | * Cartography and habitat data was collected in 2018 by SCF * Analysis is required | SCF (VB, JN) |
| 3.2. Niger, Ennedi NCR: conduct feasibility study | Study produced | M | DCFAP, APN |  | * An ethnozoological study of 110 interviews has been carried out focused on absence/presence of species and those extinct * No reports of dama currently being present * A map is being developed based on reports of former presence | AP (AH) |
| ~~3.3. Errachidia: conduct feasibility study~~ | ~~Study produced~~ | ~~M~~ | ~~DEF~~ | Dropped | * No longer relevant | DEF (LS) |
| ~~3.4. Boujdour-Safia ABC: conduct feasibility study~~ | ~~Study produced~~ | ~~M~~ | ~~DEF~~ | Dropped | * No longer relevant | DEF (LS) |
| 3.5. Morocco, M’hamid Elghizlane (Iriqui National Parc): conduct feasibility study | Study produced | H | DEF | New | * Establishment of habitat map of Iriqui National Parc by November 2022 * Analysis of the evolution of the carrying capacity of the habitat by September 2022 * Translocation of the first group in Oct/Nov 2022 | DEF (LS) |
| **Objective 4. Reinforce wild populations** | | | | | | |
| 4.1. Chad, OROA: conduct feasibility study | Study produced | H | DCFAP, EAD, SCF |  | * Plans are underway to reinforce the captive group sourced from OROA/Manga with animals from EAD/Abu Dhabi in late 2021 * See new action 7.5 below | SCF / EAD (VB, JN, JC) |
| **SEMICAPTIVE** | | | | | | |
| **Objective 5. Secure and expand semi-captive populations** | | | | | | |
| 5.1. Senegal: Katane |  |  |  |  |  |  |
| 5.1.1. Extend area to 5000 ha | Extension created and fenced | H | DPN | Achieved | * Extension completed but lack of development for feed and water supply * A comparative study report between the interior and the exterior of the completed enclosure | DPN (SF, BY) |
| 5.1.2. Conduct drone survey | Survey report | M | ABZC, DPN |  | * Exchange with ABZC with the facilitation of David Mallon on a Memorandum of Cooperation * Document not finalized by ABZC | DPN (SF, BY) |
| 5.1.3. Conduct training programme | Programme completed | H | ABZC, DPN |  | * Relevant training needed for DPN * Requested finalization of memorandum with ABZ | DPN (SF, BY) |
| 5.1.4. Conduct feasibility study on obtaining new animals | Study produced | M | DPN | In progress | * Study already carried out with the participation of National universities, NGOs, and DPN curators (report available) with strong recommendations on obtaining new animals | DPN (SF, BY) |
| 5.1.5. Conduct research on movement patterns population dynamics and diet | Results produced | M | DPN, partners | In progress | * Permanent Sahelo-Saharan antelope monitoring in the Katane enclosure * A memorandum was signed with the Spanish cooperation * This will be strengthened by a research study in partnership with the university | DPN (SF, BY) |
| 5.2. Senegal, Guembeul: Evaluate role in dama conservation and need for new stock | Study produced | M | DPN | Achieved | * Guembeul is a key site in the context of increasing dama numbers * The DPN strategy provides for the reinforcement of the Guembeul population with a reproductive nucleus | DPN (SF, BY) |
| 5.3. Morocco, Safia & M’Cissi: Continue government programme | Breeding continues | M | DEF | Ongoing | * A special population management plan was produced to ensure the optimum development of the population * As of March 2021, there were 24 damas in M’cissi and 12 in Safia * Numbers are increasing * There’s a plan to create a separate enclosure for addax to give the damas more space to breed * Reintroduction is the long-term pla | DEF / EEZA (LS, TA, ZA) |
| 5.4. Morocco, Assa: Continue government programme | Enclosure created | M | DEF | Achieved | * Translocation of the first group to the enclosure will be carried out by the end of 2021 (OctoberNovember) | DEF (LS) |
| 5.5. Morocco, R’Mila: Continue breeding programme | Breeding continues | H | DEF | Ongoing | * Work is being carried out to establish a breeding centre in R’Mila to manage genetic diversity in the controlled breeding program * A mission was carried out in March 2021 which showed that more than 100 damas are currently present * Numbers are increasing * To provide more space for dama gazelle breeding, the dorcas gazelles are being removed and transferred to another site in the South * Reintroduction is the long-term plan | DEF / EEZA (LS, TA, ZA) |
| 5.6. Algeria: Conduct feasibility study into possible reintroduction | Study produced | L-M | ANN, DGF | Ongoing | * A qualitative, interview-based investigation exploring local perceptions of a future project to reintroduce extinct ungulates in Ahaggar, including dama gazelle and addax, has been carried out in the Protected Area | UB (FB, KDS) |
| 5.7. Tunisia: Conduct feasibility study on establishment of a breeding group at Haddej NP | Study produced | H | DGF, MW | Ongoing but delayed due to COVID travel restrictions | * Will need to be coordinated with the management of the existing breeding group of addax in Haddej NP | MW (MP) |
| **CAPTIVE AND SEMICAPTIVE OUTSIDE RANGE** | | | | | | |
| **Objective 6. Maximise the effectiveness of captive populations** | | | | | | |
| 6.1. Minimise loss of genetic diversity of captive populations | Genetic diversity managed in all populations | H | SSP and EEP coordinators, SPA, SAF, EWA, others | Ongoing in AZA and EEZA | * Three animals were transferred from ABZC to EAD * EAD population now more than 40 animals * SAF and EWA – ranches in USA (mainly Texas) continue to buy and sell dama gazelles among each other. Increasing genetic diversity is sometimes a definite objective | EAD (JC)  SAF / EWA (EM) |
| 6.1.1. Exchange animals between AAZ and EAD | Exchanges completed | H | AAZ, EAD |  | * The process has been initiated * Awaiting results of genetic analysis of EAD animals to inform exchanges | EAD / AAZ (JC, MQ) |
| 6.1.2. Transfer mhorr gazelles from EAZA to AAZ | Transfers completed | H | AAZ, EAZA, Studbook keeper | Amended / Ongoing EEP coordinator | * Action changed from “exchange” to “transfer” * More information about the affiliation of the AAZ population is necessary | EEZA (TA, SD) |
| 6.1.3. Exchange animals between Morocco and EAZA | Exchanges completed | H | DEF, EEZA | Ongoing EEZA | * In collaboration with the CSIC, we are working on establishing an exchange plan with the Arid Zones Experimental Station of Alméria (2023) | EEZA (TA, SD, LS) |
| 6.1.4. Transfer addra from US to AAZ/EAD | Exchanges agreed and completed | H | AZA, SPA, SAF, AAZ, EAD | Amended and ongoing | * Action changed from “AAZ” to “AAZ/EAD” * EAD is also planning to transfer some animals in the future | EAD (JC) |
| 6.1.5. Develop a metapopulation management plan for animals in the UAE | Plan developed | M | All regional holders | Amended | * Action changed from “Arabian Peninsula” to “UAE” |  |
| 6.1.6. Evaluate role of mixed animals in reintroduction and reinforcement operations | Evaluation conducted | H | AAZ, Key stakeholders |  | * Need to take into account social and genetic needs * Need to consider who, how and when the decision is made whether or not to treat all dama gazelle as one population for conservation purposes | EEZA (TA)  UO (MSP) |
| 6.1.7. Identify collections in Texas with rare haplotypes and recommend appropriate animal transfers or exchanges subject to approval of the owners | Animals identified  Transfers agreed and arranged | H | RZSS, SCBI Studbook keepers | Amended | * Amended to include approval of the owners * SAF and EWA members are supportive of conservation initiatives | SAF / EWA (EM) |
| 6.2. Continue to develop the C2S2 consortium | Increased number of holders  Increased number of animals | Ongoing | C2S2, SPA, SAF, EWA | Ongoing | * SAF and EWA members are supportive of conservation initiatives | SAF / EWA (EM) |
| 6.3. Continue the breeding experiment at Al Ain Zoo | Results available | M-H | AAZ | Ongoing | * Mixed groups of males and females have been separated for now * Plans to develop mixed breeding herds are being discussed | AAZ (MF) |
| 6.4. Increase range state capacity for dama husbandry and management | Trained teams in each facility | M | Government agencies | Ongoing (Morocco) |  | DEF (LS) |
| 6.4.1. Establish a training programme | Training courses provided | 2019-2020 | DEF, EAD, EEZA | Ongoing | * Delayed by covid * Training cycle is implemented for the local managers of the natural reserves (Morocco) | EEZA / DEF (TA, SD, LS) |
| 6.4.2. Circulate husbandry guidelines | Guidelines circulated | M | EEZA | Ongoing |  | EEZA (TA, SD) |
| 6.4.3. Translate guidelines into French | Translation available | M | EEZA, NGOs |  |  |  |
| 6.5. Carry out PVA and metapopulation management planning to evaluate different strategies of management and produce enough animals for release operations | PVA conducted | L-M | SPA, SAF, EWA, Studbook keepers, others | Amended | * Clarification: Evaluate mhorr, addra and mixed animals separately and consider joint evaluations * Management strategies used in Texas and how withdrawal of animals will affect owners’ livelihood need to be considered | ASG / AAZ / RZSS (DM, LB, HS)  SAF / EWA (EM) |
| ~~6.6. Produce a long-term plan for producing enough animals for release operations~~ |  |  |  | Dropped | * Merged with 6.5 |  |
| ~~6.7. Review development of wider metapopulation models~~ |  |  |  | Dropped | * Covered under 6.5 |  |
| **Objective 7. Obtain new founders** | | | | | | |
| 7.1. Obtain privately held animals in range countries |  |  |  | Amended | * Action amended by adding ‘in range countries’ for clarity |  |
| 7.1.1. Monitor possible captive animals in Chad and Niger | Captive animals obtained | L-M | DCFAP, DFCPR |  |  |  |
| 7.1.2. Develop a protocol and holding facilities | Protocol developed | L-M | DCFAP, DFCPR, NGOs |  |  |  |
| 7.2. Chad: Capture wild animals from Manga | New founders obtained | 2019-2020 | DFCPR, SCF, others | Achieved | * 3 Manga females successfully captured and relocated to holding facilities in OROA * Female group supplemented with 1 male captured in OROA * Subsequent loss of 2 females due to nutrition issues * Remaining female and male have produced 2 calves * Group supplemented by 1 female self-caught in holding facilities • Total group in June 2021 includes: 1 adult male, 2 adult females, 2 young females * Need to decide what to do with the remaining wild animals in Manga as the site is unprotected * A decision tree developed for this scenario is available in the strategy (page 44) * See also section 2.3 | SCF / Noé / DFCPR (VB, JN, SP, MHH) |
| 7.2.1. Conduct scoping survey | Survey results | 2019-2020 | DFCPR, SCF | Achieved |  | SCF (VB, JN) |
| 7.2.2. Feasibility study on capture methods | Study published | Done 2019 | SPA, EAD, SCF | Achieved |  | SCF (VB, JN) |
| 7.2.3. Plan capture operation | Plan developed | Done 2019 | DFCPR, SCF, others | Achieved |  | Noé / SCF (SP, VB, JN) |
| 7.2.4. Ensure suitable holding facility available in OROA | Facility available | Done 2019 | DFCPR, SCF, EAD | Achieved |  | SCF (VB, JN) |
| 7.3. Collate all capture and veterinary information in US | Summary available | L-M | SPA, AZA |  |  |  |
| 7.4. Train range state personnel in gazelle handling and management (see 6.4.1) | Training courses provided | L-M | DEF, EAD, EEZA |  | * Delayed by covid * Needs to be reviewed and rescheduled | EEZA / DEF (TA, SD, LS) |
| 7.5. Chad: Assess feasibility of capturing additional wild ounders from Manga | Decision taken | H | DFCPR, SCF, Noé, others | New |  |  |
| 7.6. Chad: Develop a plan for ex-situ population at OROA | Plan developed | H | EAD, SCF, RZSS, ASG, Noé, others | New | * Ensure optimal use of new founder genetic diversity and minimise inbreeding * Mid to long-term plan for breeding and release |  |
| **OTHER** | | | | | | |
| **Objective 8. Continue genetic research** | | | | | | |
| 8.1. Record morphological data and take genetic samples from all museum specimens with locality data | Data available | Ongoing | NMS, RZSS | Ongoing | * Hybrid capture array developed for use on museum and wild faecal samples |  |
| 8.2. Continue genome sequencing | Results available | Ongoing | SCBI, RZSS, partners | Ongoing | * Hybrid capture array developed for use on museum and wild faecal samples * ddRAD analysis conducted on AAZ mixed animals and whole genome sequencing to be explored * Whole genome & ddRAD analysis of US captive addra and mhorr samples completed with two publications pending * Less than 1% difference found between the genomes of addra and mhorr gazelle, five times less than the difference between dama gazelle and grant’s gazelle • Mhorr gazelles have a greater number of deleterious mutations * Three different chromosome numbers (38, 39 & 40) have been found but these do not correlate to specific subspecies | RZSS, SCBI (HS, KD, KK) |
| 8.3. Assess the role of cryobanking | Study published | L | SCBI, RZSS |  |  |  |
| 8.4. Include option of gamete preservation in any wild capture operations | Protocol developed | L-M | SCBI, RZSS |  |  |  |
| 8.5. Obtain and analyse new samples | Samples analysed | Ongoing | RZSS | Ongoing | * Samples from newly captured animals are under analysis * Continuing genetic analysis of animals in EAD and Chad (Manga and OROA) and a private collection in Morocco | RZSS / EAD (HS, KD, JC) |
| 8.6. Continue genetic and morphological research into intraspecific structure, using nuclear markers | Analyses published | Ongoing | RZSS | Ongoing | * Hybrid capture array developed for use on museum samples and wild faecal samples | RZSS (HS, KD) |
| 8.7. Morocco: Carry out genetic analysis on any untested captive populations | Analyses conducted | M | RZSS, DEF |  | * Looking for potential partnership and funding | DEF (LS) |
| 8.8. Continue breeding experiment and carry out genetic analysis, semen analysis, and karyotyping on offspring | Results available | Ongoing | AAZ, RZSS | Partially achieved | * Genetic analysis on mixed animals is complete * Semen analysis and karyotyping delayed due to lack of a local collaborator and covid-related travel restrictions * A potential collaboration for semen analysis is being investigated * Potential for genomics investigation on the mixed animals to be explored | AAZ (LB) |
| **Objective 9. Conduct research on biology and conservation of dama gazelle** | | | | | | |
| 9.1. Compile lists of in-situ and ex-situ research needs | Lists available | L-M | Done at Al Ain workshop | Achieved | * Available in the strategy document * The following are added: studies related to the behaviour, morphology, health, survival and reproduction of mixed mhorr x addra animals |  |
| 9.2. Continue research in Texas on movements and population dynamics | Some results available, some in progress | Ongoing | SAF, EWA | Ongoing | * Biological research is continuing, study into skull set for tooth replacement and wear almost complete (to complement visual criteria already published) * Paper on habitat selection under Texas conditions has been [published](https://meridian.allenpress.com/tjs/article/72/1/Article%207/444334/HABITAT-SELECTION-BY-EXOTIC-DAMA-GAZELLES-NANGER) (Mungall & Cooper, 2020) * Paper on home range size aspects under Texas conditions has been [published](https://www.tandfonline.com/doi/abs/10.1080/15627020.2021.1908845) (Mungall & Cooper, 2021) * Paper on movement data is under development * With the help of management interventions, winter losses among dama gazelles in Central Texas were fortunately quite light despite the unusually cold period with ice and snow lasting about a week | SAF / EWA (EM) |
| 9.3. Analyse radio-collaring data from the Safia release | Analysis available | Ongoing | EEZA, DEF | Achieved in 2020 | * Results and data published in:   Abáigar et al (2019): [e00680](https://doi.org/10.1016/j.gecco.2019.e00680)  Abáigar et al (2020): [e01389](https://doi.org/10.1016/j.gecco.2020.e01389) | EEZA / DEF (TA) |
| 9.4. Conduct research into interspecific interactions and competition at OROA and other sites | Research results available | L-M | DCFPR, SCF |  |  |  |
| 9.5. Review release operations to date and reasons for success and failure | Review published | M | EEZA, Government  agencies | Ongoing | * Assessment of the first release operation in Safia has been completed * Planning the next release operation in Assa taking into consideration all the results of the previous release * Article on 50 years of mhorr conservation has been submitted to the forthcoming Gnusletter 38 (1) (Abáigar, 2021) | EEZA / DEF (TA, SD, LS) |
| **Objective 10. Implement the strategy effectively** | | | | | | |
| 10.1. Continue and expand Dama network | Key stakeholders participate  Regular updates produced | Ongoing | RZSS, ASG | Ongoing |  |  |
| 10.2. Maintain ‘Dama-library’ (Google Groups etc) | Library up-to-date | Ongoing | RZSS, ASG | Ongoing | * Accessible [here](https://sites.google.com/site/damagazellenetwork/dama-references) |  |
| 10.3. Hold a review meeting in Texas | Meeting to be held | 2024 | SAF, EWA | Amended | * Covid travel problems have meant postponement of the 2022 Texas dama gazelle update workshop until 2024 (5-year review in Kerrville, Texas) * Overseas participants need to be present to see ranch conditions, and US owners need to hear the discussion on how their animals can contribute to species sustainability – especially for addra | SAF / EWA (EM) |
| 10.4. Publish and distribute the 2019-2028 strategy | Strategy published in EN and FR | H | AAZ, ASG, RZSS | Achieved in 2019 | * 150 English and 150 French hard copies of the conservation strategy were distributed to reviewers and delegates of the 2018 Al Ain workshop * Some hard copies are available upon request * PDF versions are available for download from [AAZ website](https://www.alainzoo.ae/conservation/dama-gazelle-conservation-and-research-programme) | AAZ, ASG, RZSS (LB, DM, HS) |
| 10.5. Initiate an education and awareness programme on dama gazelle and ecosystem in range countries (schools, media, public) | Programmes established | L-M | Government  agencies, NGOs | Ongoing (Morocco) |  | DEF (LS) |
| 10.6. Develop and implement Monitoring & Evaluation Plan for the strategy | M&E Plan available | M | AAZ, ASG, RZSS | Ongoing | * Added “and implement” * Plan developed (see section 3.0) | ASG / AAZ / RZSS (DM, LB, HS) |
| 10.7. Obtain adequate resources for each component | Resources obtained  Actions implemented | 2019-2028 | All | Partially achieved | * Funding has been obtained for some activities |  |

|  |  |  |  |
| --- | --- | --- | --- |
| AH - Annabelle Honorez (AP)  AE - Adam Eyers (FRm)  AR - Abdoul Razack Moussa Zabeirou (SCF)  BY - Babacar Youm (DPN)  DM - David Mallon (IUCN ASG)  EM - Elizabeth Mungall (SAF & EWA) | FB - Farid Belbachir (UB)  HS - Helen Senn (RZSS)  JC - Justin Chuven (EAD)  JN - John Newby (SCF)  KD - Kara Dicks (RZSS)  KDS - Koen de Smet KK - Klaus Koepfli (SCBI) | LB - Lisa Banfield (AAZ)  LS - Latifa Sikli (DEF)  MF - Mohammed Al Faqeer (AAZ)  MHH - Mahamat Hassan Hatcha (DCFAP)  MQ - Myyas Al Qarqas (AAZ)  MSP - Mark Stanley Price (UO)  SD - Sonia Domínguez (EEZA-CSIC) | SF - Serigne Fall (DPN)  SP - Sébastien Pinchon (Noé)  TA - Teresa Abáigar (EEZA-CSIC)  VB - Violeta Barrios (SCF)  ZA - Zouhair Amhaouch (DEF) |

## Slender-horned Gazelle (*Gazella leptoceros*)

Slender-horned Gazelle *Gazella leptoceros* Planning Logframe 2020-2029

|  |  |  |  |
| --- | --- | --- | --- |
| **Objective / Action** | **Indicator** | **Urgency** | **Implementation** |
| **Objective 1. Current status in the wild is established** | | | | |
| 1.1. Conduct feasibility study on aerial surveys of Great Western Erg and Great Eastern Erg (Algeria) | Study reports completed |  | DGF (agency responsible), ANN |
| 1.2. Conduct ground surveys in the Great Western Erg and Great Eastern Erg (Algeria) | Survey reports completed |  | DGF (agency responsible), ANN |
| 1.3. Carry out interview surveys with local communities in Erg Erraoui, Erg Cherch, Erg Iguidi, Region of Tadmait, Erg Issaouene (Algeria) | Surveys completed |  | DGF (agency responsible), ANN |
| 1.4. Conduct aerial survey of Great Eastern Erg (Tunisia) | Survey reports completed |  | DGF, Marwell Wildlife |
| 1.5. Conduct ground surveys in the Great Eastern Erg (Tunisia) | Surveys completed |  | DGF, Marwell Wildlife |
| 1.6. Conduct questionnaire and field surveys in Egypt | Surveys completed |  | Government agency, Nature Conservation Egypt (NGO) |
| 1.7. Collate reports of SHG in Libya and conduct questionnaire and field surveys where feasible | Information available  Survey results available |  | Government agency, Alhaya organisation |
| 1.8. Collate historic reports of SHG in Sudan | Information available |  | Government agency, NGOs |
| 1.9. Collate reports of SHG in countries south of the Sahara | Information available |  | Government agency, NGOs |
| 1.10. Monitor poaching reports on social media with the support of anonymous volunteers | Monitoring in place with regular reports coordinated with the roadmap |  |  |
| 1.11. Carry out a study to characterise poaching through enquiries on the ground and administration archives | Report available |  | Proposed by TWCS to the DGF (Tunisia) |
| 1.12. Develop standardized survey and monitoring methods | Methods developed and in use |  | All |
| 1.13. Develop an identification card (SHG and dorcas gazelle) Arabic/French/English | ID card produced and available online |  | ASG, IUCN-Mediterranean |
| 1.14. Maintain an updated status summary | Running update maintained |  | ASG, Living Desert |
| 1.15. Establish a central database and national databases to store records | Databases set up |  | Government agencies |
| 1.16. Organise courses and training in field survey, identification of gazelles, census techniques and site management | Staff trained |  | ASG, IUCN-Med, others |
| **Objective 2. Protection of knownpopulations is enhanced** | | | | |
| 2.1. Provide adequate vehicles and equipment for anti-poaching activities to key PAs | Key PAs are adequately equipped  Poaching reduced |  | DGF (agency responsible), ANN |
| 2.2. Support anti-poaching measures at key points in the Great Western and Great Eastern Ergs | Anti-poaching patrols in place  Poaching reduced |  | DGF (agency responsible), ANN |
| 2.3. Ensure that legal penalties for poaching are applied effectively | Poachers successfully prosecuted  Poaching reduced |  | Law enforcement agencies, judicial authorities |
| 2.4. Engage citizen scientists in monitoring poaching activity | Citizen science networks operating |  | Government agencies, NGOs |
| 2.5. Avoid imports into North Africa of non-indigenous gazelle species. | No further imports of non-indigenous gazelles |  | DGF, Marwell Wildlife |
| **Objective 3. The status of captive populations is improved** | | | |
| 3.1. Manage breeding centres according to the best international standards | Breeding plans developed  Enclosure designs optimized  Gazelles tagged to allow identification  Veterinary protocols in place  Parasite loads monitored and controlled |  | Government agencies, Managers, Experts |
| 3.2. Algeria (Brezina Breeding Centre): Monitor numbers, sex/age ratios, reproductive success | Monitoring carried out annually  Studbook developed |  | ANN |
| 3.3. Tunisia (Sidi Toui breeding centre): Monitor numbers, sex/age ratios, twinning rates, reproductive success, annually | Monitoring carried out  Animals tagged to allow identification  Studbook developed |  | DGF |
| 3.4. Tunisia: Construct a new breeding facility at El Gonna and provide equipment and trained staff | Centre constructed and operational  Studbook developed |  | DGF, Marwell Wildlife |
| 3.5. Develop protocols to confiscate privately owned animals in range states | Protocols developed  Confiscated animals transferred to official centres |  | ANN, DGF (Algeria), DGF (Tunisia), TWCS |
| 3.6. Provide training in techniques of gazelle husbandry and captive management | Staff in all centres trained |  | BEF (HCEFLCD), IUCN- Med, EEZA, Marwell |
| 3.7. Produce guidelines on husbandry and management (EN and FR) | Guidelines available in both languages |  | AZA, EAZA, ZSL, EEZA, Marwell Wildlife |
| 3.8. Review options to expand the US breeding program | Review completed;  Recommendations made |  | AZA, managers |
| 3.9. Review the future of the European population | Decision made |  | EAZA |
| 3.10. Continue attempts to obtain new founders | Genetic diversity increased |  | Government agencies, AZA |
| 3.11. Develop a captive management plan across all populations | Integrated management plan developed |  | All |
| **Objective 4. Policy framework strengthened** | | | |
| 4.1. Develop National Action Plans or work plans, based on the regional roadmap (Algeria, Tunisia, Egypt, Libya) | National action Plans developed and available online |  | State agencies, in collaboration with national stakeholders |
| 4.2. Contribute to the CMS Concerted Action for Sahelo-Saharan Megafauna and revised Action Plan | Revised AP developed |  | CMS, all |
| **Objective 5. Awareness of Slender-horned gazelle conservation enhanced** | | | |
| 5.1. Messages distributed through the press, TV and social media | Messages and articles published in the media and on social networks |  | All |
| 5.2. Raise awareness of the status of SHG among local communities in all key zones | Outreach sessions organized |  | Government agencies, NGOs |
| 5.3. Raise awareness of the status of SHG among hunting organizations | Joint meetings held |  | Government agencies, NGOs, hunting associations |
| 5.4. Raise awareness of the situation of Slender-horned gazelle among regional officials: Customs, Gendarmerie and military |  |  | Government agencies, NGOs |
| **Objective 6. The taxonomic relationships of *G. leptoceros* are clarified** | | | |
| 6.1. Conduct a genomic analysis to confirm the taxonomic relationships between *G. leptoceros*, *G. cuvieri* and *G. marica*, including specimens from Egypt and from museums | Analysis of results available |  | RZSS |
| **Objective 7. Reintroduction and reinforcement** | | | |
| 7.1. Carry out a feasibility study on reintroduction and reinforcement of wild populations (depends on success of actions under Objective 3. | Study conducted  Potential release sites identified |  | Government agencies, NGOs, |
| **Objective 8. The road map is coordinated and implemented** | | | |
| 8.1. Review progress at regular intervals | Reports produced |  | Government agencies, IUCN/SSC ASG, NGOs |
| 8.2. Provide adequate capacity and resources to ensure conservation of SHG | Resources and capacity provided |  | All partners |
| 8.3. Maintain communication between all stakeholders | Club Leptocère email list maintained with regular communication |  | ASG, Living Desert |

## Cuvier’s Gazelle (*Gazella cuvieri*)

Cuvier’s Gazelle *Gazella cuvieri* Objectives and actions (from IUCN 2017)

### Regional Objectives

| **Objective / Action** | **Indicator** | **Urgency** | **Implementation** |
| --- | --- | --- | --- |
| **Intervention strategy: International cooperation** | | | |
| **Objective R1: Coordinate the Action Plan** | | | |
| R.1.1. Establish a mailing list of all stakeholders | List established |  | Government agencies, NGO, IUCN-Med, CMS |
| R.1.2. Create a database on Cuvier’s gazelle | Database created and available |  |  |
| R.1.3. Identify a focal point in each range country | 3 focal points identified |  | Government agencies |
| R.1.4. Assess at regular intervals (2-3 years) if the indicators have been achieved | Report produced |  | CMS, others |
| R.1.5. Distribute the results of actions taken to all stakeholders | List established and implemented (R1.1) |  | All |
| R.1.6. Standardise monitoring methods | Pilot actions, training courses |  | Government agencies |
| **Intervention strategy: Reinforce capacity** | | | |
| **Objective R2 Reinforce capacity** | | | |
| R.2.1. Organise courses on census and monitoring methods (« distance sampling », camera traps, tracks, genetic ID) | Courses organised  Monitoring teams trained in each country  Standardised monitoring methodology put into effect |  | Governments, SC, NGO, universities |
| R.2.2. Organise courses on habitat management | Regional training organised |  |  |
| **Intervention strategy: Management in captivity** | | | |
| **Objective : R3 Develop a coordinated captive breeding programme** | | | |
| R3.1. Develop guidelines on captive breeding | Guidelines developed and published |  | EAZA-CSIC |
| R3.2. Translate guidelines into French | French translation circulated |  | IUCN Med |
| R3.3. Strengthen capacity in captive management (husbandry, handling, demography, genetics) | Training courses organised  Team trained in each site with Cuvier’s Gazelle |  | EAZA-CSIC, Government agencies |
| R3.4. Complete the genetic analysis of Cuvier’s Gazelle | Study completed, results published |  | Research institutes  Spanish National Research Council (CSIC) |
| R3.5. Ensure that reinforcement and reintroduction projects follow the IUCN guidelines | Projects planned according to IUCN (2013) |  | Government agencies, NGO |
| R3.6 Investigate the possibility of exchange of animals to Almeria through EAZA | Feasibility report published |  | EAZA-CSIC, Government agencies |

### Objectives and Actions: Morocco

| **Objective / Action** | **Indicator** | **Urgency** | | **Implementation** |
| --- | --- | --- | --- | --- |
| **Intervention strategy: Protection and restoration of populations** | | | | |
| **Objective 1: Anti-poaching** | | | | |
| 1.1. Reinforce the system of surveillance (humans and material resources). | Cadre trained and equipped in each key site |  | ANEF | |
| 1.2. Put in place surveillance systems dedicated to wild fauna | Structures in place  Monitoring programme |  | ANEF | |
| 1.3. Consolidate coordination between different authorities to control and prevent. | Liaison committee established |  | ANEF, government agencies | |
| **Objective 2: Control stray dogs** | | | | |
| 2.1. Organise programmes to shoot stray dogs (regularly) | Decrease in number of stray dogs in key sites |  |  | |
| 2.2. Prevent rubbish disposal in key sites | Decrease in rubbish  Decrease in stray dogs at key sites |  |  | |
| **Intervention strategy: Protection and management of habitats** | | | | |
| **Objective 3: Protect and restore Cuvier’s Gazelle habitat** | | | | |
| 3.1. Integrate key sites into the Protected Area system | Gaps in the PA network analysed  Potential reserves identified |  | ANEF | |
| 3.2. Restore degraded habitats to favour Cuvier’s Gazelle | Improved habitats in key sites |  | ANEF, Ministère de l’Agriculture | |
| **Intervention strategy: Awareness** | | | | |
| **Objective 4: Reinforce awareness programmes** | | | | |
| 4.1. Develop materials to support awareness | Materials developed |  |  | |
| 4.2. Organise meetings with hunters | Meetings organised  Dialogue established |  | ANEF  Hunting federation | |
| 4.3. Organise meetings with local actors | Meetings organised  Local organisations involved in conservation |  | ANEF  Local organisations NGO, | |
| 4.4. Organise regional and national media campaigns | Articles published or broadcast (press, TV, radio) |  |  | |
| **Intervention strategy: Research and monitoring** | | | | |
| **Objective 5: Conduct research and monitoring activities** | | | | |
| 5.1. Study space use and movements. | Study conducted  Results published |  | Universities, researchers | |
| 5.2. Study the diet of Cuvier’s Gazelle in the Anti-Atlas | Study conducted  Results published |  | Universities, researchers | |
| 5.3. Implement a data collection system | Database developed  Monitoring system established |  | Universities, researchers | |
| 5.4. Implement a population monitoring system | Monitoring methodology adopted  Teams trained |  | Universities, researchers, ANEF | |

### Objectives and Actions: Algeria

| **Objective / Action** | **Indicator** | | **Urgency** | **Implementation** |
| --- | --- | --- | --- | --- |
| **Intervention strategy: Protection and restoration of populations** | | | | |
| **Objective 1 : Reduce direct mortality** | | | | |
| 1.1. Train staff | | Teams trained in all key sites  Direct mortality reduced |  |  |
| 1.2. Ensure rigorous application of the law | | Poachers prosecuted  Direct mortality reduced |  |  |
| 1.3. Implement an anti-poaching strategy | | Strategy in place  Direct mortality reduced |  |  |
| 1.4. Involve hunting federations in anti-poaching | | Meetings organised  Dialogue established  Direct mortality reduced |  |  |
| 1.5. Involve civil society in anti-poaching | | Awareness programme  Co-management committee  Direct mortality reduced |  |  |
| 1.6. Put in place a strategy to control stray dogs | | Decrease in stray dogs in key sites |  |  |
| **Intervention strategy: Protection and management of habitats** | | | | |
| **Objective 2 : Protect and manage the habitat** | | | | |
| 2.1. Establish protected areas in key sites | | Gaps in the PA network analysed  Potential reserves identified |  |  |
| 2.2. Create ecological corridors | | Corridors identified and mapped  Management measures developed |  |  |
| 2.3. Conduct rigorous impact assessments | | Impact assessments conducted according to international standards |  |  |
| **Intervention strategy: Awareness** | | | | |
| **Objective 3 : Reinforce awareness programmes** | | | | |
| 3.1. Launch awareness campaigns (media, local communities) | | Articles published or broadcast (press, TV, radio)  Meetings organised  Local organisations involved in conservation |  |  |
| 3.2. Develop a programme of environmental education | | Meetings organised  Local organisations involved in conservation |  |  |
| 3.3. Organise awareness days on wild fauna | | Meetings organised  Local organisations involved in conservation |  |  |
| **Intervention strategy: Research and monitoring** | | | | |
| **Objective 4: Conduct a programme of research and monitoring** | | | | |
| 4.1. Basic research: population dynamics | | Study conducted  Results published |  |  |
| 4.2. Applied research: carrying capacity | | Study conducted  Results published |  |  |

### Objectives and Actions: Tunisia

| **Objective / Action** | **Indicator** | **Urgency** | | **Implementation** |
| --- | --- | --- | --- | --- |
| **Intervention strategy: Protection and restoration of populations** | | | | |
| **Objective 1. Reduce direct mortality** | | | | |
| 1.1. Reduce poaching to a minimum | Increase in the Cuvier’s Gazelle population  Decrease in signs of poaching  Direct mortality reduced | |  | DGF and *Commissariat Régional au Développement Agricole* (Regional Commission for Agricultural Development – CRDA) ONG |
| 1.2. Rigorous application of the law | Prosecutions conducted  Decrease in number of cases | |  | Garde Nationale, courts, Local and national authorities |
| **Objective 2 : Launch a reintroduction programme** | | | | |
| 2.1. Develop a captive breeding programme | Programme developed and implemented  Increase in the captive population | | MoU signed April 2015 | DGF, CSIC (Almeria) |
| 2.2. Identifier the optimal sites for reintroduction | Sites assessed | |  | DGF |
| Gazelles transferred | | Transfer from Almeria to Serj National Park, October 2016 | DGF, CSIC |
| Gazelles released in national parks | |  | DGF, CSIC |
| **Intervention strategy: Protection and management of habitats** | | | | |
| **Objective 3: Protect and restore the habitat** | | | | |
| 3.1. Improve and strengthen wardening | Teams trained in all key sites  Direct mortality reduced | |  | DGF and CRDA  ONG, national authorities |
| 3.2. Coordinate habitat management and planning | Improvement in habitats in key sites | |  |  |
| 3.3. Monitor forest fires and wood cutting | Increase in area of forest | |  |  |
| 3.4. Protect and restore the alfa steppe | Increase in area of alfa steppe | |  |  |
| **Objective 4 : Ensure habitat connectivity** | | | | |
| 4.1. Conduct studies on potential corridors | Corridors identified and mapped | |  |  |
| **Intervention strategy: Awareness** | | | | |
| **Objective 5 : Strengthen awareness raising programmes** | | | | |
| 5.1. Launch awareness campaigns among: schools, media, local communities, journalists | Public are more supportive of nature  Increase in volunteering  Articles published or broadcast (press, TV, radio) | |  |  |
| 5.2. Launch awareness campaigns among: Police, Army, hunters, administrative authorities | Meetings organised  Leaders trained | |  |  |
| 5.3. Develop brochures, conferences, information days, postcards, social networks, films | Materials developed | |  |  |
| **Intervention strategy: Research and monitoring** | | | | |
| **Objective 6 : Conduct a programme of research and monitoring** | | | | |
| 6.1. Determine the current status of the relict population of Cuvier’s gazelle | Programme of study developed  Population estimates | |  |  |
| 6.2. Assess the response of the habitat to the needs of the reintroduced populations | Studies conducted  Management plans adapted | |  |  |
| 6.3. Monitor the adaptation of the reintroduced populations (diet, diseases, behaviour) | Studies conducted  Management adapted | |  | DGF, NGO, Universities |
| 6.4. Organise courses for managers, researchers, wardens, eco-guards | Programme de training courses organised | |  | IUCN, national and international specialists |
| 6.5. Reinforce human capacity: increase numbers of personnel | Numbers increased in key sites | |  | DGF |
| 6.6. Reinforce equipment and methods of monitoring | Adequate equipment in key sites | |  | DGF, NGO |
| 6.7. Put in place a monitoring and evaluation programme | System in place  Regular monitoring implemented | |  |  |

## Dorcas Gazelle (*Gazella dorcas*)

| **Objective / Action** | **Indicator** | **Urgency** | **Implementation** |
| --- | --- | --- | --- |
| **Objective 1. Status in the wild is established** | | | |
| 1.1 Identify key sites and corridors and other protected areas | Map of key sites and corridors produced |  |  |
| 1.2 Strengthen regional and national capacity for census and monitoring | Capacity needs assessment conducted Training workshops held  Trained teams present in all range countries |  |  |
| 1.3. Carry out population counts | Counts conducted and result analyzed |  |  |
| **Objective 2. Known populations and their habitats are protected effectively and monitored** | | | |
| 2.1. Enhance anti-poaching | Patrol schedules agreed and funded  Reduction in poaching incidents  Training sessions for rangers  Sufficient vehicles and motorcycles available |  |  |
| 2.1.1. Strengthen law enforcement |  |  |  |
| 2.1.2. Organise anti-poaching patrols |  |  |  |
| 2.1.3 Involve local populations in surveillance and control |  |  |  |
| 2.1.4. Build capacity |  |  |  |
| 2.1.5. Sensitise local communities and other stakeholders |  |  |  |
| 2.2. Develop or update management plans for all key sites | Management plans developed/updated |  |  |
| 2.3. Develop and implement regular monitoring plans | Monitoring plans developed/implemented |  |  |
| **Objective 3. Dorcas Gazelles reintroduced into parts of their range and existing populations are bolstered.** | | | |
| 3.1. Reinforce the reintroduction programme in Morocco |  |  |  |
| 3.2. Conduct feasibility studies on other reintroductions | Studies completed  Potential release sites identified |  |  |
| **Objective 4. The** **genetic diversity of Dorcas Gazelle is maximised and the management of** ***ex situ* populations is optimised to support *in situ* conservation** | | | |
| 4.1. Continue genetic and genomic research | Analyses conducted  Genetic diversity assessed |  |  |
| 4.1.1. Confirm status of *G. d. massaelya* | Analysis completed |  |  |
| 4.1.2. Assess phylogenetic structure | Conservation units identified |  |  |
| 4.2. Maintain and expand coordinated breeding programmes | - Increased number of participating institutions |  |  |
| 4.3. Integrated *in situ* and *ex situ* management under a ‘One Plan Approach’ | Integrated plan produced |  |  |
| 4.4. Maintain the ex situ populations in Morocco as a regional source for reintroductions | Breeding continues |  |  |
| 4.5. Improve integration of molecular genetic data into population viability modelling and management strategies | Results incorporated |  |  |

## Red-fronted Gazelle (*Eudorcas rufifrons*)

| **Objective / Action** | **Indicator** | **Urgency** | **Implementation** |
| --- | --- | --- | --- |
| **Objective 1. The status of the species in the wild is established** | | | |
| 1.1. Conduct air, ground, and questionnaire surveys throughout the range |  |  |  |
| 1.1.1. *G. r. rufifrons* | Surveys completed  Distribution maps produced  Population estimates produced |  |  |
| 1.1.2. *G. r. tilonura* | Surveys completed  Distribution maps produced  Population estimates produced |  |  |
| 1.1.3. *G. r. albonotata* | Aerial survey completed  Distribution maps produced  Population estimates produced |  |  |
| 1.2. Enhance regional capacity for survey and monitoring | Capacity needs assessment conducted Training workshops held  Trained teams in all range countries |  |  |
| 1.3. Identify key sites and corridors | Map of key sites and corridors produced |  |  |
| **Objective 2. Known populations are protected effectively** | | | |
| 2.1. Enhance anti-poaching measures | Patrol schedules agreed and funded  Reduction in poaching incidents |  |  |
| 2.1.1. Strengthen capacity of government agencies | Training sessions for rangers  Sufficient vehicles and motorcycles available |  |  |
| 2.3. Develop or update management plans for all key sites | Management plans produced/updated |  |  |
| **Objective 3. The taxonomy of *Eudorcas* is clarified** | | | |
| 3.1. Conduct rangewide phylogenetic analyses units | Conservation units identified |  |  |
| 3.2. Develop a global plan to ensure maximal retention of genetic diversity | Plan completed |  |  |
| 3.3. Investigate role of biobanking, cell line generation, reproductive technologies, and movement of germ cells | Strategies developed |  |  |
| **Objective 4. Evaluation of the need for ex situ programmes** | | | |
| 4.1. Review feasibility of establishing coordinated breeding programmes | Review completed |  |  |
| **Objective 5. Evaluation of the rôle of reintroduction** | | | |
| 5.1. Review the importance of reintroductions | Review completed |  |  |

## Barbary Sheep (*Ammotragus lervia*)

| **Objective / Action** | **Indicator** | **Urgency** | **Implementation** |
| --- | --- | --- | --- |
| **Objective 1.** **Status in the wild is established** | | | |
| 1.1. Conduct air and ground surveys | Surveys completed  Individual population status established |  |  |
| 1.2. Enhance regional capacity for survey and monitoring | Capacity needs assessment conducted Training workshops held  Trained teams in all range countries |  |  |
| **Objective 2. Known populations are protected effectively** | | | |
| 2.1. Enhance anti-poaching | Patrol schedules agreed and funded  Reduction in poaching incidents |  |  |
| 2.1.1. Strengthen capacity of government agencies | Training sessions for rangers  Sufficient vehicles and motorcycles available |  |  |
| 2.2. Identify key sites and corridors | Map of key sites and corridors produced |  |  |
| 2.3. Management plans for all sites produced or updated | Plans produced/updated |  |  |
| **Objective 3. Reintroduction into suitable parts of its former range** | | | |
| 3.1. Consolidate reintroduction in Morocco |  |  |  |
| 3.1.1. Continue the scheduled release programme | Population growth and expansion |  |  |
| 3.1.2. Maintain the monitoring programme | Analysis of results (reproduction, movements, habitat use) |  |  |
| 3.1.3. Consolidate community engagement | MoUs renewed |  |  |
| 3.2. Conduct feasibility studies on other reintroductions | - Studies completed  - Potential release sites identified | L |  |
| **Objective 4. Genetic diversity is assessed and the management of** e***x situ* populations is optimised to support *in situ* conservation*.*** | | | |
| 4.1. Conduct genetic and genomic analyses | Genetic diversity assessed  Conservation units identifed |  |  |
| 4.1.2. Assess phylogenetic structure | Analysis completed |  |  |
| 4.2. Identify conservation units |  |  |  |
| 4.3. Research biobanking, cell line generation, reproductive technologies, and movement of germ cells | Strategies developed |  |  |
| 4.4. Maintain and expand coordinated breeding programmes | - Increased number of participating institutions  - Increased number of animals included in programmes |  |  |
| 4.5. Integrated *in situ* and *ex situ* management under a ‘One Plan Approach’ | Integrated plan produced |  |  |
| 4.6. Improve integration of molecular genetic data into population viability modelling and management strategies | Results incorporated |  |  |

1. Recommendation 4.5 and Recommendation 9.2 were consolidated by COP12 into Resolution 9.21 (COP12) and repealed. [↑](#footnote-ref-2)
2. The *Updated objectives and actions for Dama Gazelle (Nanger dama) conservation (2021-2028)* developed from the 2.5 year review in 2021 was not developed through a CMS process.The CMS Secretariat as a UN entity follows the rules and guidelines as set by the United Nations and any designations employed and the presentation do not imply the expression of any opinion whatsoever on the part of the CMS Secretariat or contributory organisations concerning the legal status of any country, territory, city or area in its authority, or concerning the delimitation of its frontiers or boundaries. [↑](#footnote-ref-3)