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CONSERVATION STRATEGY AND ACTION PLAN FOR THE AFRICAN WILD DOG (LYCAON PICTUS) IN THE KAVANGO ZAMBEZI TRANSFRONTIER CONSERVATION AREA

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This strategy was endorsed by the KAZA structures
by the KAZA TFCA Ministers Meeting held in
Kasane, Botswana on the 19th June 2015.

TABLE OF CONTENTS

Abbreviations and Definitions of Terms used in the Strategy **6**

Introduction **7**

Conservation of the African wild dog in Southern Africa **8**

African wild dogs and KAZA **9**

Development of this wild dog strategy **10**

Development of a vision and goal 10

Problem analysis 11

Development of objectives, targets and activities 11

Development of a vision and goal 11

Timeframe and evaluation of progress 11

The Strategic Plan for Wild Dogs in KAZA 2014-2018 **12**

Vision **12**

Goal **12**

Objectives **12**

Capacity Development 12

Research and Monitoring 13

Tourism 14

Political Commitment 14

Policy and Legislation for transboundary conservation 15

Education and Awareness 16

Promoting coexistence 16

Land use and infrastructure development 17

Prioritizing objectives **18**

Bibliography **18**

Appendix 1 – Logframe **19**

Appendix 2 – Workshop Participants **24**

Appendix 3 – Contact Details **25**

Appendix 4 – KAZA Country Contact Details **26**

ABBREVIATIONS AND DEFINITIONS OF TERMS USED IN THE STRATEGY

Abbreviations: The following is a list of abbreviations used in the Strategy

BPCT	Botswana Predator Conservation Trust
CAMPFIRE	Communal Areas Management Programme for Indigenous Resources (Zimbabwe)
DWNP	Department of Wildlife and National Parks (Botswana)
EOs	Extension Officers (of Wildlife Authorities)
IRDNC	Integrated Rural Development and Nature Conservation (Namibia)
IUCN CSG	IUCN Canid Specialist Group
KCP	Kwando Carnivore Project (Namibia)
KLO	KAZA Liaison Officers
KWDWG	KAZA Wild Dog Working Group
MET	Ministry of Environment and Tourism (Namibia)
MET WDP	Ministry of Environment and Tourism Wild Dog Project (Namibia)
MINAMB	Ministério do Ambiente (Ministry of Environment) (Angola)
MINHOTUR	Ministério da Hotelaria e Turismo (Angola)
NDOs	KAZA National Desk Officers
NGOs	Non-Governmental Organisations
PDC	Painted Dog Conservation (Zimbabwe)
PDRT	Painted Dog Research Trust (Greg Rasmussen – Zimbabwe)
RDC	Rural District Council
RWCP	Range Wide Conservation Program for Cheetah and Wild Dog
TBNRM	Transboundary Natural Resource Management
ZAWA	Zambian Wildlife Authority
ZCP	Zambian Carnivore Programme
ZPWMA	Zimbabwe Parks and Wildlife Management Authority
ZSL	Zoological Society of London

Definitions: The following is a list of definitions of terms or groupings used in the Strategy

Actors	People / organisations responsible for completing the activities
Communities	Local villagers and farmers, and institutionalised aggregations of these, i.e. Conservancy Committees, Community Resource Boards, Ward Wildlife Management Committees, Community Trusts etc.
NGOs	All research, conservation and other relevant non-governmental organisations
Researchers	BPCT, KCP, MET WDP, PDC, PDRT, ZCP
Stakeholder	A person, group or organisation that has interest or concern in a subject, project or event
Wildlife Authorities	Angola: MINHOTUR / MINAMB, Botswana: DWNP, Namibia: MET, Zambia: ZAWA, Zimbabwe: ZPWMA

A list of participants in the planning workshop is found in Appendix 2. Contact details for the relevant ministries, organisations and individuals mentioned in this Strategy are found in Appendix 3

INTRODUCTION

African wild dogs (Lycaon pictus) are sub-Saharan Africa's most endangered large carnivore with only an estimated 6,600 adults in 39 subpopulations left in the wild (IUCN 2013). This equates to approximately only 660 packs or 660 breeding females, and potentially only 1,400 mature individuals (IUCN 2013). Suitable habitat has shrunk considerably and today African wild dogs are resident in only 9.4% of their historical range (IUCN/SSC 2007). The species is listed as Endangered with a declining population trend on the IUCN Red List (IUCN 2013).

The African wild dog (hereafter wild dog) presents major challenges for conservationists in the 21st Century. Being a naturally low density, wide ranging species, wild dogs need more space than almost any other terrestrial large carnivore species. In fact, viable populations of wild dogs are rarely found exclusively within the confines of protected areas, or even within single countries. Recognising their endangered status, ecological importance as top carnivores (Woodroffe & Ginsberg, 2005), and value to Africa's tourism industry (Lindsey et al., 2007), the Rangewide Conservation Program for Cheetah and Wild Dogs (RWCP), a joint initiative of the Zoological Society of London and the Wildlife Conservation Society, in partnership with the IUCN / SSC Cat and Canid Specialist Groups, undertook a conservation planning exercise at a scale rarely before considered in terrestrial conservation. Three regional conservation strategies were developed for African wild dogs and cheetah for Southern, East, and North, West and Central Africa. The Southern African Strategy was compiled in 2007 (IUCN/SSC 2007), and subsequently seven National Conservation Action Plans have been produced for the following Southern African countries; Botswana, Malawi, Mozambique, Namibia, South Africa, Zambia and Zimbabwe.

This Kavango Zambezi Transfrontier Conservation Area (KAZA TFCA) Wild Dog Strategy is the first Transfrontier Strategy and follows the framework of the Regional Strategy and National Action Plans, whilst bringing goals and activities down to the KAZA TFCA level. Conservation action is difficult at the regional level, and sometimes insufficient at the national level. As such, Transfrontier Conservation Areas are critical when it comes to wide ranging, large bodied species. In fact transboundary populations of wild dogs in southern Africa represent nearly 90% of the regional total (IUCN/SSC 2007).

The KAZA TFCA covers an area of 519,912 km2 and incorporates parts of Angola, Botswana, Namibia, Zambia and Zimbabwe (Fig 1). The KAZA TFCA is home to an estimated 24% of the world's remaining wild dog population (Woodroffe 2013) making it a critical area for the long term survival of the species. In 2012, the KAZA Secretariat hosted an African Wild Dog Symposium in the Kavango Region, Namibia, which brought together wild dog experts and policy makers from the five KAZA countries. The Symposium Proceedings, 'Conservation of the African wild dog, Lycaon pictus, across the KAZA TFCA Landscape' (KAZA TFCA Secretariat 2013), is a compilation of current wild dog research and conservation activities taking place in the KAZA region, and provides useful context for this strategy.

CONSERVATION OF THE AFRICAN WILD DOG IN SOUTHERN AFRICA

African wild dogs are a unique and social species of canid found only in Africa. They are obligate cooperative breeders, forming packs in which usually only the alpha pair produce offspring, which are then raised with the help of other pack members. Packs can number anywhere between 2 and 40 individuals (average pack size is about 10 adults and yearlings) and litter sizes average c. 8-10 pups, although single litters of over 15 pups have been recorded. Pups are born in a den, where the pack stays based for three months before resuming their nomadic lifestyle. Home ranges can be extremely large, up to 3,000km2 for a single pack, but averaging c. 300 to 800km2.

Southern Africa supports globally important populations of African wild dogs. However, wild dogs have experienced major contractions in their geographic range within southern Africa, with resident populations known to remain in just 12.2% of their historical range in southern Africa (Table 4.1 IUCN/SSC 2007).

Protected areas are very important for the conservation of wild dogs, but over 60% of wild dogs resident range falls outside government-designated protected areas (as well as 68% of recoverable range and 70% of connecting range) (IUCN/SSC 2007). Paradoxically, wild dogs also face challenges within many well protected wildlife areas, because of interspecific competition from dominant carnivores such as lions (Panthera leo) and spotted hyenas (Crocuta crocuta), which tend to thrive in protected areas. Provision of artificial water sources in protected areas can cause an overabundance of elephants (Loxodonta africana), potentially resulting in reduced prey availability for wild dogs, due to habitat change. As such, conservation activity outside of protected areas, as well as inside, is absolutely critical for the long-term survival of the species. Since several important wild dog populations straddle international boundaries, trans-boundary management is likely to be critical for conserving the species in the long term.

The main threats to the survival of wild dogs in the southern African region were identified in the Regional Strategy to be habitat loss and fragmentation, conflict with livestock and game farmers, loss of prey populations, accidental snaring, road kills, small population sizes and infectious diseases (IUCN/SSC 2007). The regional strategic plan provides a framework to alleviate these threats, and this KAZA TFCA Strategy has re-aligned the regional priorities, through a problem analysis, to be specific at the site level (KAZA TFCA).

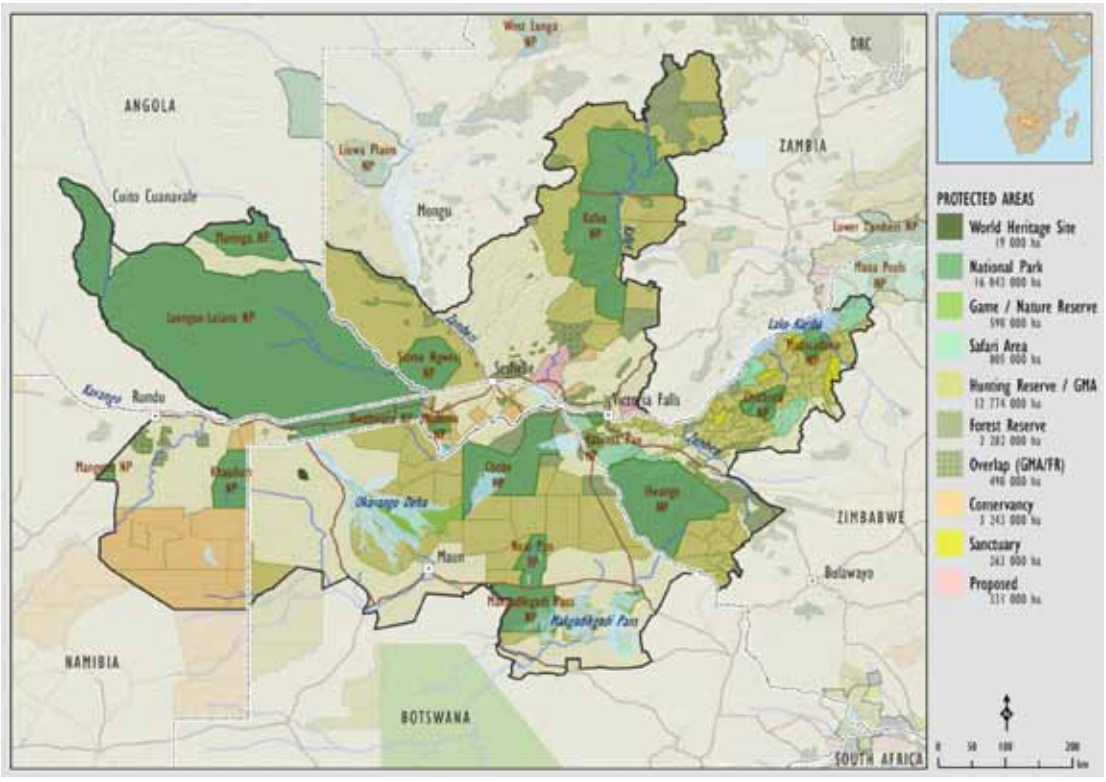

Figure 1: The Kavango Zambezi Transfrontier Conservation Area, and its location within Africa (inset) (courtesy KAZA Secretariat).

AFRICAN WILD DOGS AND KAZA

The KAZA TFCA is the world's largest transfrontier conservation initiative, comprising >20 protected areas across five countries (Fig 1). The KAZA TFCA is a key conservation area for many species and, as mentioned, is estimated to hold almost one quarter (24%) of the world's remaining endangered African wild dogs (Woodroffe 2013).

In May 2012, WWF in Namibia under the auspices of the KAZA TFCA held a Scientific Symposium on the African Wild Dog in the KAZA region. Given the importance of the TFCA for wild dog conservation, the KAZA TFCA has identified African Wild dog conservation as one of the key priorities that needs specific species conservation initiatives, which will in turn contribute to the achievement of the KAZA TFCA objectives. It was thus recommended at the Symposium that a KAZA TFCA Conservation Strategy for African wild dogs be developed, as it would significantly enhance the conservation efforts of the species in the region, within the context of sustainable tourism.

In addition to their endangered status, ecological importance and enormous value as a tourist species, African wild dogs are also classic umbrella species and can be considered a global flagship species (definitions below). This thus highlights the species as one deserving special conservation attention that will subsequently serve to conserve an additional wide range of fauna and flora as well as their habitats and ecosystems, hence ensuring the KAZA TFCA region maintains ecological functionality.

WILD DOGS AS A FLAGSHIP SPECIES

Flagship species are popular, charismatic species that serve as symbols and rallying points to stimulate conservation awareness and action. Whilst not as well-known as other flagship species (e.g. gorillas, elephants and rhinos), African wild dogs are a species rapidly gaining international exposure and increasing popularity. Their unique, charismatic and family-oriented nature makes them a species close to human hearts and identifies the species as one which does indeed serve as a symbol to stimulate conservation action.

WILD DOGS AS AN UMBRELLA SPECIES

Umbrella species are wide-ranging species whose requirements include those of many other species. As such, conservation of such species, necessarily results in the conservation of a wide variety of fauna and flora as well as the habitats and ecosystems that support them. African wild dogs are a classic umbrella species, given their low density, wide-ranging nature, and without doubt wild dog conservation efforts serve a much greater conservation agenda.

DEVELOPMENT PROCESS OF THIS WILD DOG STRATEGY

Following on from the successful KAZA Wild Dog Symposium in 2012, the KAZA TFCA Secretariat hosted a workshop to bring together species experts, representatives of wildlife authorities and key members of the KAZA structures to develop a conservation strategy specifically for African wild dogs in KAZA. The workshop was funded by WWF in Namibia and facilitated by WWF in Namibia and the Rangewide Conservation Program for Cheetah and Wild Dog.

The workshop took place in Kasane, Botswana, from the 26th to 28th November 2013, and was a highly participatory process whereby all participants could input into all stages of the process. All KAZA countries except Angola were represented.

The strategic planning process was made up of six key stages (IUCN/SSC 2007):

1) The development of a vision

2) The development of a goal

3) A problem analysis

4) The development of a number of objectives which address the problems identified

5) The development of a number of targets to address each objective

6) The development of a number of activities to address each target

Key background to this is a mapping exercise which shows the distribution status of the African wild dog across the region in question. This mapping exercise was done as part of the preparation for the regional strategy, and subsequently updated for each country during the preparation of the National Action Plans. The latest map for the KAZA Region is shown below (Fig 2).

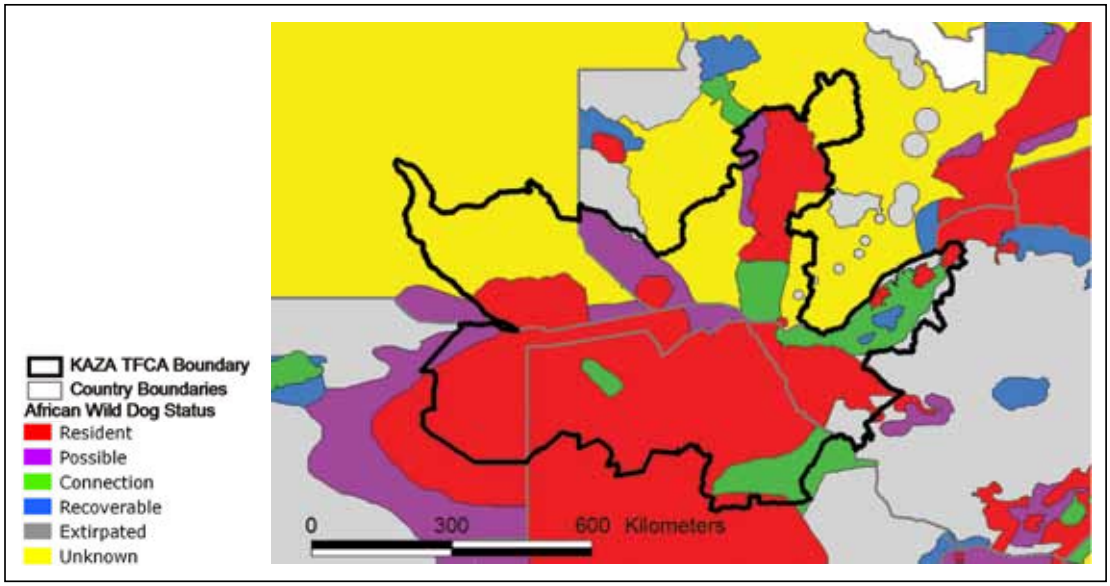

Figure 2: African wild dog distribution status within the KAZA TFCA (courtesy Range Wide Conservation Program for Cheetah and African Wild Dogs)

DEVELOPMENT OF VISION AND GOAL

A vision is a long term goal which forms the guiding principle for the strategic plan over the next 25-50 years. The vision was developed in plenary, with input from all participants. Efforts were made to link this with the overall KAZA vision 'To establish a world-class transfrontier conservation area and tourism destination in the Okavango and Zambezi River Basin regions of Angola, Botswana, Namibia, Zambia and Zimbabwe within the context of sustainable development'.

The goal of the strategy is intended to reflect what the KAZA TFCA wanted to accomplish in a shorter time frame than that identified for the vision, e.g. 10-20 years. The goal was thus intended to be realistic and achievable, as well as broadly measurable, making it possible to know when it has been achieved.

PROBLEM ANALYSIS

Problem analysis is a participatory exercise to define the main barriers to achieving one's objective, in this case the conservation of the African wild dog in the KAZA TFCA. Problem statements, collected through a participatory process, were categorised as either causal factors, or symptoms. Resource and capacity constraints were considered alongside the proximate threats (such as habitat loss, persecution, disease etc). Generally the following areas were identified as requiring attention in order to achieve sustainable wild dog conservation in the KAZA TFCA. There is need for capacity development for conservation authorities, NGOs, local leaders and relevant stakeholder in order to: a) conduct research on the African wild dog; b) provide education awareness on the biology, and ecology of the African wild dog; c) promote the tourism value of the species which will in turn lead to the conservation of the species; d) obtain political commitment at national and regional level for the conservation of the African wild dog; and e) provide a conducive legislative environment that will support the conservation of the species. Habitat fragmentation due to un-integrated land use is one of the major threats to the African wild dog, and there is therefore an eminent need to address land use issues across the KAZA TFCA. Various misperceptions about the species have resulted in the indiscriminate persecution of the African wild dog in many situations, resulting in an urgent need to promote human wild dog coexistence strategies through education and human wildlife conflict mitigation measures.

The final problem analysis was essential in developing the objectives of the strategic plan, which were effectively designed to encompass solutions to the problems identified.

DEVELOPMENT OF OBJECTIVES, TARGETS AND ACTIVITIES

The objectives selected were effectively the key ways in which the problems identified could be solved. Eight different objectives were identified, encompassing all aspects of the hypothetical problem tree. Targets were then developed to meet the objectives, on the understanding that if all targets were met then the objective would be achieved. Targets were designed to be specific, measurable, achievable and realistic. Activities were the final step in the plan and listed actions that needed to be carried out to meet each target. Each set of activities was designed to be necessary and sufficient to meet the associated target, and every effort was made to ensure these were specific, achievable and realistic, and could be evaluated.

TIMEFRAME AND EVALUATION OF PROGRESS

It was agreed that it was unrealistic to put a timeframe to each activity, since some of the activities depended on other factors beyond the control of assigned institutions. Instead, it was agreed that the assigned institutions would try and make as much progress as possible towards all targets and objectives within five years (i.e. by the end of 2018) and would thereafter review progress and revise the Strategy for Phase 2. There will however be an informal review of progress after 2.5 years, conducted by the RWCP, in order to assess progress and motivate for progress in areas that are not on track for achieving the objectives.

The resulting strategic plan is found below, and summarised as a logframe in Appendix 1.

THE STRATEGIC PLAN FOR AFRICAN WILD DOGS IN KAZA 2014 – 2018

VISION

A resilient, viable and ecologically functioning population of African wild dogs, supported by well-connected habitat within and between the five Kavango Zambezi Transfrontier Conservation Area member states, that contributes to regional sustainable development.

GOAL

To improve the long term viability of the world's largest contiguous African wild dog population by securing suitable habitat, improving transboundary connectivity and realising the species' value, in the context of sustainable development and environmental change.

OBJECTIVES

To address the problems identified as major threats to the conservation of the African wild dog, and to address the KAZA TFCA vision and objectives, the following broad objectives were identified as key.

1. Capacity development
2. Research and monitoring
3. Tourism
4. Political commitment
5. Policy & Legislation for transboundary conservation
6. Education and Awareness
7. Promoting coexistence
8. Land-use and infrastructure development

In order to achieve the above objectives key targets and activities were identified under each objective and a person / group or institution was identified as the responsible party for the attainment of each activity. A KAZA Wild Dog Working Group (KWDWG) will be established to help achieve certain targets.

The objectives, targets and activities of this Strategy are:

1. CAPACITY DEVELOPMENT

To develop the capacity of governments, NGOs, local leaders, communities and other stakeholders to conserve wild dogs within KAZA

1.1. To input wild dog information into existing training schemes and institutions

- 1.1.1. Compile a list of relevant programmes and training schemes (RWCP)
- 1.1.2. Develop, where necessary, or share existing capacity building materials (school curricula, training modules etc.) (NGOs)
- 1.1.3. Add to the curricula of existing training schemes to develop capacity in research, fundraising, monitoring and education (RWCP, KWDWG, KAZA Secretariat).

1.2. To develop local capacity by involving the communities that live with wild dogs, in existing training, research and education activities.

- 1.2.1. Involve community members in long-term monitoring exercises (Researchers, NGO's)
- 1.2.2. Provide relevant training in field techniques to community members (including radio tracking, spoor surveys and camera trapping) (Researchers, Wildlife Authority EOs)

1.3. To develop local capacity for parks officers and local scientists through training and tertiary education opportunities

1.3.1. Build capacity for individuals within institutions (Wildlife Authorities, NGOs and Educational Institutions) through training, short term courses and tertiary education (Wildlife Authorities, NGOs)
1.3.2. Support local anti-poaching initiatives through financial and logistical support and training (Wildlife Authorities, NGOs)

1.4. Leverage financial capacity for communities within KAZA

1.4.1. Assist communities with sourcing funds and proposal writing for wild dog conservation activities (KWDWG, NGOs, Researchers)
1.4.2. Facilitate partnerships between communities and funding organisations to support wild dog conservation (KWDWG, KAZA Secretariat, NGOs, Researchers)

2. RESEARCH AND MONITORING

To undertake research and monitoring to inform management of the KAZA TFCA's wild dog population

2.1. Conduct research to address gaps in knowledge to enhance conservation of KAZA's wild dog population

2.1.1. Develop methods for estimating wild dog densities, including non-invasive methods (ZCP, BPCT, KCP, Rosie Woodroffe)
2.1.2. Use empirical data and GIS analyses to characterise landscape connectivity for wild dogs within KAZA and develop models to predict connections (PDRT, ZCP, ZSL (Helen O'Neill), BPCT)
2.1.3. Conduct research to enhance understanding of limiting factors to wild dog population growth within KAZA (including prey availability, competing carnivores and habitat destruction) (Researchers)
2.1.4. Project the likely consequences of climate change for KAZA's wild dog population (Rosie Woodroffe, Tico McNutt, Rosemary Groom)
2.1.5. Conduct research on how land use policy and management influences wild dogs' ability to coexist with people and domestic animals within KAZA (Researchers)
2.1.6. Conduct research on how habitat change associated with pumped water and/or elephant populations influence wild dog populations (PDRT, MET WDP)

2.2. Develop and implement standardised monitoring systems needed to conserve KAZA's wild dogs in the long term

2.2.1. Improve the frequency and quality of reporting wild dog sightings by guides, tourists and other interested parties through pamphlets, data loggers, photo competitions, other incentives (NGOs, Researchers, KAZA Secretariat, Wildlife Authorities).
2.2.2. Collect and archive serum and tissue samples in specific location(s) in each country to facilitate understanding of disease and genetic issues (Researchers, Wildlife Authorities collecting samples; ZCP to coordinate)
2.2.3. Screen serum samples periodically (every 5 years) to monitor disease threats (Researchers, Wildlife Authorities, ZCP, Rosie Woodroffe) (KWDWG to discuss)

2.3. Facilitate collection and sharing of relevant information within countries and across international boundaries within KAZA

2.3.1. Establish systems for sharing ID photos of wild dogs throughout KAZA, especially in immediate transboundary areas (Researchers, NGOs, KAZA Secretariat)
2.3.2. Construct a proposal to KAZA and National Authorities / Aviation Authorities to register transboundary projects for permission to cross boundaries in specific vehicles or planes for the purpose of monitoring wild dogs (KAZA Research Permits) (Tico McNutt, KAZA Secretariat, KWDWG)
2.3.3. Conduct exchange visits between wild dog projects for research students and research staff (Researchers, NGOs)
2.3.4. Encourage wild dog projects to make accessible relevant data and

samples (e.g. genetics / disease) (with interpretation thereof) to the KAZA initiative bearing in mind ongoing student projects with data sharing agreements (Researchers, KAZA Secretariat to coordinate)

2.3.5. Compile a list of ongoing wild dog research topics being undertaken in KAZA, to ensure complementary research and avoid duplication, and submit to KAZA, with annual updates (as part of annual template for reporting) (RWCP, Wildlife Authorities, KAZA Secretariat)

3. TOURISM

To promote development of sustainable wildlife-based tourism that leverages the unique behaviours and spectacular attributes of African wild dogs

3.1. Broaden the scope of tourism activities to increase benefits deriving from wild dog focussed photographic tourism.

3.1.1. Develop and test Tourism Models specific for African wild dogs in communal land to create income for communities living with wild dogs, and share experiences and knowledge within KAZA (NGOs, Researchers, Communities)

3.1.2. Develop or print information and interpretive materials for protected areas with resident African wild dogs to distribute to tourists and safari operators about wild dog conservation status, social behaviours, and current local sightings information to increase probabilities of sightings (Wildlife Authorities, NGOs)

3.2. To elevate African wild dogs as a flagship species to enhance marketing and development of KAZA's world class wildlife tourism

3.2.1. Submit African wild dog photos to KAZA for inclusion on KAZA documents, publications, banners, and other printed materials (All, KAZA Secretariat)

3.2.2. Discuss with the KAZA Marketing and Branding Project the inclusion of the African wild dog in the revised KAZA logo (KAZA Secretariat).

3.2.3. Work with tourism boards to encourage marketing of African wild dogs in KAZA partner countries at international tourism trade shows. (NGOs, KAZA Secretariat, Tourism boards); see 4.2

4. POLITICAL COMMITMENT

Obtain and maintain political commitment to meeting the conservation needs of wild dogs at a local, national and transboundary level

4.1. To achieve endorsement of the KAZA Wild Dog Strategic Plan at government, local authority and community levels

4.1.1. Finalise strategic plan (RWCP, KAZA Secretariat)

4.1.2. Distribute plan to five partner countries (KAZA Secretariat)

4.1.3. Countries to consult with relevant stakeholders, particularly communities, for comments (KLOs, NDOs)

4.1.4. Plan returned to KAZA Structures for approval (KAZA Secretariat)

4.2. To include the African wild dog as a KAZA flagship species

4.2.1. Write a motivational paper about the African wild dog and its importance as a flagship species, for submission to the meeting of the Committee of Senior Officials (August 2014) (RWCP, KAZA Secretariat)

4.2.2. Paper to be presented to the KAZA Structures for review or official designation as a flagship species (KAZA Secretariat)

4.2.3. Use African wild dog images as extensively as possible on promotional material for KAZA and informal KAZA documents (All, KAZA Secretariat)

4.3. To get wild dog conservation as a standing item on the TFCA Steering committee meetings and other regular Government meetings and Joint Management Committee meetings

4.3.1. Develop a standard reporting template for wild dog projects within key sites within KAZA for an annual report to National Governments and KAZA Structures (KWDWG, RWCP, Researchers); See 2.2
4.3.2. Independent researchers within KAZA to establish a relationship with and provide regular reports to the National Governments for KAZA Structures in time for meetings (Researchers); See 2.2
4.3.3. Write a motivational letter to list the African wild dog as an indicator species for KAZA, and for inclusion in the KfW indicator monitoring matrix (RWCP, KAZA Secretariat)

4.4. To encourage all countries to implement existing National Action Plans for Cheetah and Wild Dog

4.4.1. Obtain a letter from the IUCN Species Survival Commission encouraging countries to implement (or develop in the case of Angola) their National Action Plans (Rosie Woodroffe)
4.4.2. RWCP to continue to offer support to all countries for implementation of their National Action Plans (RWCP)
4.4.3. Angola to be encouraged to hold a National Action Planning Workshop for wild dogs (RWCP, KAZA Secretariat)

5. POLICY AND LEGISLATION FOR TRANSBOUNDARY CONSERVATION

Promote transboundary conservation through review, sectoral policy harmonisation and where necessary revision of all policies, legislation, and protocols affecting wild dog conservation at all levels

5.1. To incorporate the African wild dog into the KAZA TFCA Policy Harmonization document

5.1.1. Policy Harmonization Document to be re-circulated to solicit comments from additional stakeholders, including the RWCP (KAZA Secretariat)
5.1.2. Key stakeholders input comments (including regarding African wild dogs) (DWNP (Michael Flyman), KLOs, NDOs)
5.1.3. Document sent to KAZA Secretariat through the KAZA Structures for final consolidation and approval (KAZA Secretariat)

5.2. To use the RWCP's Policy and Legislation Review Document to identify necessary revisions, additions and gaps for wild dog conservation

5.2.1. Engage with lawyers to discuss possibilities for policy revision where it is identified to be necessary (RWCP)
5.2.2. Explore the use of the Convention on the Conservation of Migratory Species of Wild Animals (CMS) for improving wild dog conservation across international boundaries (RWCP, Rosie Woodroffe, Michael Flyman)

5.3. To achieve recognition of African wild dogs as an indicator species in the National Biodiversity Strategic Action Plans (NBSAPS)

5.3.1. Active participation by KLOs, National Desk Officers and Wildlife Authorities regarding the NBSAPS, including discussion of the value of the African wild dog (RWCP, NGOs, KLOs, NDOs, Wildlife Authorities)
5.3.2. Participate in the revision of the draft NBSAPs to help align and revise the document and incorporate the African wild dog (RWCP, NGOs, KLOs, NDOs, Wildlife Authorities)

5.4. To increase commitment to existing legislation intended to protect KAZA's natural resources and wildlife

5.4.1. Alert, and where possible assist, law enforcement agencies to address the detrimental effects of illegal livelihood activities including; bush meat trade (particularly wire-snare poaching), poisoning and veldt burning practises on the survival of wild dogs (Communities, NGO's, Researchers)
5.4.2. Lobby governments to legislate and enforce more commensurate and effective penalties for wildlife crimes (NGOs, RWCP, Wildlife Authorities)

6. EDUCATION AND AWARENESS

To raise awareness of KAZA's globally important wild dog population and improve stakeholders' knowledge about the species' value, biology and conservation needs

6.1. Establish programmes to improve knowledge of wild dogs' status, value, biology and conservation needs among KAZA stakeholders

- 6.1.1. Engage with traditional leaders, local authorities and politicians throughout KAZA to raise awareness of wild dog conservation issues and to seek approval for community outreach activities (KAZA Secretariat, NGOs, Wildlife Authority EOs, Protected Area Managers, IRDNC, Local Authorities)
- 6.1.2. Enhance and expand existing outreach programmes to schools within KAZA (NGOs, Protected Area Managers, Wildlife Authority EOs, Education Ministries, KLOs, Tour Operators)
- 6.1.3. Create opportunities to engage communities in discussions about African wild dog conservation through sporting events, community meetings and public media (radio and television) (NGOs, Wildlife Authorities, RDCs, CAMPFIRE Structures (Zimbabwe), ZAWA, ZCP, IRDNC)

6.2. Establish programmes to raise global awareness of KAZA's wild dog population

- 6.2.1. Highlight the importance of KAZA to wild dogs (and wild dogs to KAZA) through television programmes, websites, inflight magazines and other international media (NGOs, KAZA Secretariat, Guides, Tour operators)
- 6.2.2. Portray KAZA as "the wild dog capital of the world" through billboards and through posters and leaflets in airports, lodges and camps (RWCP, NGOs, Guides, Tour Operators)

7. PROMOTING COEXISTENCE

Minimise conflict, increase tolerance and promote coexistence between people and African wild dogs across KAZA

7.1. Rural livelihoods adapted and modified to decrease conflicts and increase tolerance and coexistence with African Wild Dogs.

- 7.1.1. Engage stakeholders with resources and expertise to facilitate and implement sustainable livestock husbandry (kraaling, herding and range management) (NGOs, Ministries of Agriculture, IRDNC, MET)
- 7.1.2. Promote the development and wide scale implementation of livestock insurance schemes to reduce costs to livestock owners living in coexistence with African wild dogs (and other carnivores) (MET, BPCT, KAZA Line Ministries, ZAWA)
- 7.1.3. Raise awareness among rural communities about the relationship between prey depletion (bush meat consumption) and livestock predation by African wild dogs, including through field trips or exchange visits (NGOs, Wildlife Authorities, Peter Lindsey)
- 7.1.4. Enhance the capacity of educational institutions to teach wildlife and environmental stewardship through provision of innovative programmes, resources and opportunities (NGOs, Ministries of Education); see 6.1
- 7.1.5. Distribute predator friendly livestock management literature to communities in high conflict areas and work on other conflict mitigation strategies and a response plan for dealing with conflict with African wild dogs (NGO's, Wildlife Authorities); see 7.2

7.2. Measurably increase the economic value of wild dogs to community stakeholders

- 7.2.1. Explore the options of Payment for Ecosystem Services and Redd+ carbon credit schemes for rewarding good wild dog custodianship (WWF in Namibia)
- 7.2.2. Develop and test Tourism Models specific for African wild dogs in communal land to create income for communities living with wild dogs, and share experiences and knowledge within KAZA (WWF in Namibia, NGOs, Researchers, Communities); see 3.1.1

8. LAND USE AND INFRASTRUCTURE DEVELOPMENT

Minimise adverse effects of land use change and infrastructure development and promote the implementation of best land use practices for wild dog conservation

8.1. Influence and promote the integration of existing and future land use plans to be compatible with wild dog conservation.

- 8.1.1. Identify structures and stakeholders currently working on wildlife based land reforms and land use planning in the KAZA TFCA, and build up an email list of relevant contacts (WWF in Namibia Transboundary Conservation Advisor, RWCP)
- 8.1.2. Engage with these structures through information sharing about wild dog conservation needs, to try and influence future land use plans to be wildlife friendly (KWDWG)
- 8.1.3. Identify and encourage a focal person within each country to work closely with field workers, community structures, and formal community support agencies to represent the interests of wild dogs within discussions on land use (KLOs, IRDNC, TBNRM Forums Coordinator)

8.2. Promote wildlife based land uses and community based natural resource management in areas with potential for wild dog conservation

- 8.2.1. Use the KAZA-wide land cover map, country-specific Integrated Development Plans (IDPs) and the KAZA Master IDP to identify important areas for wild dog conservation and connectivity (PPF & WWF in Namibia GIS Analyst, KAZA M&E Officer)
- 8.2.2. Pressurise and assist wildlife authorities, landowners and land occupiers to maintain the areas identified in 8.2.1 as wildlife-based land use areas (KAZA Secretariat, WWF-KAZA Tourism Consultant)
- 8.2.3. Include reference to this Wild Dog Strategy and Action Plan as a completed Species Management Plan in the KAZA Master Integrated Development Plan (KAZA Secretariat)

8.3. Work with the relevant authorities to minimise the negative impacts of current and planned infrastructure (roads, railways and mines) on wild dog conservation

- 8.3.1. Identify structures and stakeholders currently working on infrastructure development in the KAZA TFCA, and build up an email list of relevant contacts (KAZA Secretariat, KWDWG, PPF, NGOs)
- 8.3.2. Engage with these structures through information sharing about wild dog conservation needs, to try and influence infrastructure development (including mining and prospecting) such that negative impacts on wildlife are minimised (KWDWG)
- 8.3.3. Identify and encourage a focal person within each country to work closely with field workers, community structures, and formal community support agencies to represent the interests of wild dogs within discussions on infrastructure development (KLOs, IRDNC, TBNRM Forums Coordinator)
- 8.3.4. Develop a protocol for mining prospectors in protected areas to minimise negative environmental impacts and associated threats, including increased localised snare-poaching (ZCP)

PRIORITISING OBJECTIVES

Participants were asked to rank the eight identified objectives in order of a) the most important for achieving the overall vision and goal and b) the most achievable. Twelve participants submitted their rankings, and the results are summarised below.

MOST IMPORTANT (Sorted by mean)	Mean	Median
Policy and Legislation for Transboundary Conservation	3.0	2.5
Political Commitment	3.5	2.5
Land Use and Infrastructure Development	4.2	3.5
Capacity Development	4.4	5.0
Research and Monitoring	4.6	5.0
Promoting Coexistence	4.9	5.0
Education and Awareness	5.1	5.5
Tourism	6.3	7.5

MOST ACHIEVABLE (Sorted by mean)	Mean	Median
Research and Monitoring	2.0	1.5
Tourism	3.3	2.0
Education and Awareness	3.3	3.0
Capacity Development	4.0	4.0
Policy and Legislation for Transboundary Conservation	4.4	5.0
Political Commitment	5.5	6.0
Promoting Coexistence	6.2	6.5
Land Use and Infrastructure Development	7.3	8.0

It is interesting to note that in general the objectives considered to be most important are also those considered to be most difficult to achieve. This is perhaps an indication of the areas that effort should be most focussed, and where funding should be prioritised.

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Woodroffe, R (2013) Biology and Conservation of African Wild Dogs. In Conservation of the African Wild Dog (Lycaon pictus) across the KAZA TFCA Landscape; Proceedings of a Symposium on the African Wild Dog (ed R. Taylor), pp 7-16. WWF in Namibia, Windhoek, Namibia

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APPENDIX 1

Logframe of the KAZA TFCA Wild Dog Conservation Strategy and Action Plan

VISION

A resilient, viable and ecologically functioning population of African wild dogs, supported by well-connected habitat within and between the five Kavango Zambezi Transfrontier Conservation Area member states, that contributes to regional sustainable development.

GOAL

To improve the long term viability of the world's largest contiguous African wild dog population by securing suitable habitat, improving transboundary connectivity and realising the species' value, in the context of sustainable development and environmental change.

TARGET	ACTIVITY	ACTORS
1. CAPACITY DEVELOPMENT		
To develop the capacity of governments, NGOs, local leaders, communities and other stakeholders to conserve wild dogs within KAZA		
To input wild dog information into existing training schemes and institutions	Compile a list of relevant programmes and training schemes	RWCP
	Develop, where necessary, or share existing capacity building materials (school curricula, training modules etc.)	NGOs
	Add to the curricula of existing training schemes to develop capacity in research, fundraising, monitoring and education	RWCP, KWDWG, KAZA Secretariat
To develop local capacity by involving the communities that live with wild dogs, in existing training, research and education activities.	Involve community members in long-term monitoring exercises	Researchers, NGO's
	Provide relevant training in field techniques to community members (radio tracking, spoor surveys and camera trapping)	Researchers; Wildlife Authorities EOs
To develop local capacity for parks officers and local scientists through training and tertiary education opportunities	Build capacity for individuals within institutions (Wildlife Authorities, NGOs and Educational Institutions) through training, short term courses and tertiary education	Wildlife Authorities, NGOs
	Support local anti-poaching initiatives through financial and logistical support and training	Wildlife Authorities, NGOs
Leverage financial capacity for communities within KAZA	Assist communities with sourcing funds and proposal writing for wild dog conservation activities	KWDWG, NGOs, Researchers
	Facilitate partnerships between communities and funding organisations to support wild dog conservation	KWDWG, KAZA, NGOs, Researchers
2. RESEARCH AND MONITORING		
To undertake research and monitoring to inform management of the KAZA TFCA's wild dog population		
Conduct research to address gaps in knowledge to enhance conservation of KAZA's wild dog population	Develop methods for estimating wild dog densities, including non-invasive methods	ZCP, BPCT, KCP, Rosie Woodroffe
	Use empirical data and GIS analyses to characterise landscape connectivity for wild dogs within KAZA and develop models to predict connections	PDRT, ZCP, ZSL (Helen O'Neill), BPCT
	Conduct research to enhance understanding of limiting factors to wild dog population growth within KAZA (including prey availability, competing carnivores and habitat destruction)	Researchers
	Project the likely consequences of climate change for KAZA's wild dog population	(Rosie Woodroffe, Tico McNutt, Rosemary Groom)

TARGET	ACTIVITY	ACTORS
	Conduct research on how land use policy and management influences wild dogs' ability to coexist with people and domestic animals within KAZA	Researchers
	Conduct research on how habitat change associated with pumped water and/or elephant populations influence wild dog populations	PDRT, MET WDP
Develop and implement standardised monitoring systems needed to conserve KAZA's wild dogs in the long term	Improve the frequency and quality of reporting wild dog sightings by guides, tourists and other interested parties through pamphlets, data loggers, photo competitions, other incentives	NGOs, Researchers, KAZA Secretariat, Wildlife Authorities
	Collect and archive serum and tissue samples in specific location(s) in each country to facilitate understanding of disease and genetic issues	Researchers, Wildlife Authorities collecting samples; ZCP to coordinate
	Screen serum samples periodically (every 5 years) to monitor disease threats	Researchers, Wildlife Authorities, ZCP, Rosie Woodroffe
Facilitate collection and sharing of relevant information within countries and across international boundaries within KAZA	Establish systems for sharing ID photos of wild dogs throughout KAZA, especially in immediate transboundary areas	Researchers, NGOs, KAZA Secretariat
	Construct a proposal to KAZA and National Authorities / Aviation Authorities to register transboundary projects for permission / support to cross boundaries in specific vehicles or planes for the purpose of monitoring wild dogs (KAZA Research Permits)	Tico McNutt, KAZA Secretariat, KWDWG
	Conduct exchange visits between wild dog projects for research students and research staff	Researchers, NGOs
	Encourage wild dog projects to make accessible relevant data and samples (e.g. genetics, disease) (with interpretation thereof) to the KAZA initiative bearing in mind ongoing student projects with data sharing agreements	Researchers, KAZA Secretariat to coordinate
	Compile a list of ongoing wild dog research topics being undertaken in KAZA, to ensure complementary research and avoid duplication, and submit to KAZA, with annual updates (as part of annual template for reporting)	RWCP, Wildlife Authorities, KAZA Secretariat
3. TOURISM		
To promote development of sustainable wildlife-based tourism that leverages the unique behaviours and spectacular attributes of African wild dogs		
Broaden the scope of tourism activities to increase benefits deriving from wild dog focussed photographic tourism	Develop and test Tourism Models specific for African wild dogs in communal land to create income for communities living with wild dogs and share experiences and knowledge within KAZA	NGOs, Researchers, Communities
	Develop or print information and interpretive materials for protected areas with resident African wild dogs to distribute to tourists about wild dog conservation status, social behaviours, and current local sightings information to increase probabilities of sightings	Wildlife Authorities, NGOs
To elevate African wild dogs as a flagship species to enhance marketing and development of KAZA's world class wildlife tourism	Submit African wild dog photos to KAZA for inclusion on KAZA documents, publications, banners, and other printed materials	All, KAZA Secretariat
	Discuss with the KAZA Marketing and Branding Project about inclusion of the African wild dog in the revised KAZA logo	KAZA Secretariat
	Work with tourism boards to encourage marketing of African wild dogs in KAZA partner countries at international tourism trade shows.	NGOs, KAZA Secretariat, Tourism boards

TARGET	ACTIVITY	ACTORS
4. POLITICAL COMMITMENT		
Obtain and maintain political commitment to meeting the conservation needs of wild dogs at a local, national and transboundary level		
To achieve endorsement of the KAZA Wild Dog Strategic Plan at government, local authority and community levels	Finalise strategic plan	RWCP, KAZA Secretariat
	Distribute plan to five partner countries	KAZA Secretariat
	Countries to consult with relevant stakeholders, particularly communities, for comments	KLOs, NDOs
	Plan returned to KAZA Structures for approval	KAZA Secretariat
To include the African wild dog as a KAZA flagship species	Write a motivational paper about the African wild dog and its importance as a flagship species, for submission to the meeting of the Committee of Senior Officials (August 2014)	RWCP. KAZA Secretariat
	Paper to be presented to the KAZA Structures for review or official designation as a flagship species	KAZA Secretariat
	Use African wild dog images as extensively as possible on promotional material for KAZA and informal KAZA documents	All, KAZA Secretariat
To get wild dog conservation as a standing item on the TFCA Steering committee meetings and other regular Government meetings and Joint Management Committee meetings	Develop a standard reporting template for wild dog projects within key sites within KAZA for an annual report to National Governments and KAZA Structures	KWDWG, RWCP, Researchers
	Independent researchers within KAZA to establish a relationship with and provide regular reports to the National Governments for KAZA Structures in time for meetings	Researchers
	Write a motivational letter to list the African wild dog as an indicator species for KAZA, and for inclusion in the KfW indicator monitoring matrix	RWCP, KAZA Secretariat
To encourage all countries to implement existing National Action Plans for Cheetah and Wild Dog	Obtain a letter from the IUCN Species Survival Commission encouraging countries to implement (or develop in the case of Angola) their National Action Plans	Rosie Woodroffe
	RWCP to continue to offer support to all countries for implementation of their National Action Plans	RWCP
	Angola to be encouraged to hold a National Action Planning Workshop for wild dogs	RWCP, KAZA Secretariat
5. POLICY AND LEGISLATION FOR TRANSBOUNDARY CONSERVATION		
Promote transboundary conservation through review, sectoral policy harmonisation and where necessary revision of all policies, legislation, and protocols affecting wild dog conservation at all levels		
To incorporate the African wild dog into the KAZA TFCA Policy Harmonization document	Policy Harmonization Document to be re-circulated to solicit comments from additional stakeholders, including the RWCP	KAZA Secretariat
	Key stakeholders input comments (including regarding African wild dogs)	DWNP (Michael Flyman), KLOs, NDOs
	Document sent to KAZA Secretariat through the KAZA Structures for final consolidation and approval	KAZA Secretariat
To use the RWCP's Policy and Legislation Review Document to identify necessary revisions, additions and gaps for wild dog conservation	Engage with lawyers to discuss possibilities for policy revision where it is identified to be necessary	RWCP
	Explore the use of the Convention on the Conservation of Migratory Species for improving wild dog conservation across international boundaries	RWCP, Rosie Woodroffe, Michael Flyman

TARGET	ACTIVITY	ACTORS
To achieve recognition of African wild dogs as an indicator species in the National Biodiversity Strategic Action Plans (NBSAPS)	Active participation by KLOs, National Desk Officers and Wildlife Authorities regarding the NBSAPS, including discussion of the value of the African wild dog	RWCP, NGOs, KLOs, NDOs, Wildlife Authorities
	Participate in the revision of the draft NBSAPs to help align and revise the document and incorporate the African wild dog	RWCP, NGOs, KLOs, NDOs, Wildlife Authorities
To increase commitment to existing legislation intended to protect KAZA's natural resources and wildlife	Alert, and where possible assist, law enforcement agencies to address the detrimental effects of illegal livelihood activities including; bush meat trade (particularly wire-snare poaching), poisoning and veldt burning practises on the survival of wild dogs	Communities, NGO's, Researchers
	Lobby governments to legislate and enforce more commensurate and effective penalties for wildlife crimes	NGOs, RWCP, Wildlife Authorities
6. EDUCATION AND AWARENESS		
To raise awareness of KAZA's globally important wild dog population and improve stakeholders' knowledge about the species' value, biology and conservation needs.		
Establish programmes to improve knowledge of wild dogs' status, value, biology and conservation needs among KAZA stakeholders	Engage with traditional leaders, local authorities and politicians throughout KAZA to raise awareness of wild dog conservation issues and to seek approval for community outreach activities	KAZA Secretariat, NGOs, Wildlife Authority EOs, Protected Area Managers, IRDNC, Local Authorities
	Enhance and expand existing outreach programmes to schools within KAZA	NGOs, Protected Area Managers, Wildlife Authority EOs, Education Ministries, KLOs, Tour Operators
	Create opportunities to engage communities in discussions about wild dog conservation through sporting events, community meetings and public media (radio and television)	NGOs, Wildlife Authorities, RDCs, CAMPFIRE Structures (Zimbabwe), ZAWA, ZCP, IRDNC
Establish programmes to raise global awareness of KAZA's wild dog population	Highlight the importance of KAZA to wild dogs (and wild dogs to KAZA) through television programmes, websites, inflight magazines and other international media	NGOs, KAZA Secretariat, Guides, Tour operators
	Portray KAZA as "the wild dog capital of the world" through billboards and through posters and leaflets in airports, lodges and camps	RWCP, NGOs, Guides, Tour Operators
7. PROMOTING COEXISTENCE		
Minimise conflict, increase tolerance and promote coexistence between people and African wild dogs across KAZA		
Rural livelihoods adapted and modified to decrease conflicts and increase tolerance and coexistence with African Wild Dogs.	Engage stakeholders with resources and expertise to facilitate and implement sustainable livestock husbandry (kraaling, herding and range management)	NGOs, Ministries of Agriculture, IRDNC, MET
	Promote the development and wide scale implementation of livestock insurance schemes to reduce costs to livestock owners living in coexistence with African wild dogs (and other carnivores).	MET, BPCT, KAZA Line Ministries, ZAWA
	Raise awareness among rural communities about the relationship between prey depletion (bush meat consumption) and livestock predation by African wild dogs, including through field trips or exchange visits.	NGOs, Wildlife Authorities, Peter Lindsey
	Enhance the capacity of educational institutions to teach wildlife and environmental stewardship through provision of innovative programmes, resources and opportunities	NGOs, Ministries of Education

TARGET	ACTIVITY	ACTORS
	Distribute predator friendly livestock management literature to communities in high conflict areas and work on other conflict mitigation strategies and a response plan for dealing with conflict with African wild dogs	NGOs, Wildlife Authorities
Measurably increase the economic value of wild dogs to community stakeholders	Explore the options of Payment for Ecosystem Services and Redd+ carbon credit schemes for rewarding good wild dog custodianship.	WWF in Namibia
	Develop and test Tourism Models specific for African wild dogs in communal land to create income for communities living with wild dogs and share experiences and knowledge within KAZA.	WWF in Namibia, NGOs, Researchers, Communities
8. LAND USE AND INFRASTRUCTURE DEVELOPMENT		
Minimise adverse effects of land use change and infrastructure development and promote the implementation of best land use practices for wild dog conservation		
Influence and promote the integration of existing and future land use plans to be compatible with wild dog conservation	Identify structures and stakeholders currently working on wildlife based land reforms and land use planning in the KAZA TFCA, and build up an email list of relevant contacts.	WWF in Namibia Transboundary Conservation Advisor, RWCP
	Engage with these structures through information sharing about wild dog conservation needs, to try and influence future land use plans to be wildlife friendly	KWDWG
	Identify and encourage a focal person within each country to work closely with field workers, community structures, and formal community support agencies to represent the interests of wild dogs within discussions on land use	KLOs, IRDNC TBNRM Forums Coordinator
Promote wildlife based land uses and community based natural resource management in areas with potential for wild dog conservation	Use the KAZA-wide land cover map, country-specific Integrated Development Plans (IDPs) and the KAZA Master IDP to identify important areas for wild dog conservation and connectivity	PPF & WWF in Namibia GIS Analyst, KAZA M&E Officer
	Pressurise and assist wildlife authorities, land owners and land occupiers to maintain the areas identified in 8.2.1 as wildlife-based land use areas	KAZA Secretariat, WWF-KAZA Tourism Consultant)
	Include reference to this Wild Dog Strategy and Action Plan as a completed Species Management Plan in the KAZA Master Integrated Development Plan	KAZA Secretariat
Work with the relevant authorities to minimise the negative impacts of current and planned infrastructure (roads, railways and mines) on wild dog conservation	Identify structures and stakeholders currently working on infrastructure development in the KAZA TFCA, and build up an email list of relevant contacts	KAZA Secretariat, KWDWG, PPF, NGOs
	Engage with these structures through information sharing about wild dog conservation needs, to try and influence infrastructure development (including mining and prospecting) such that negative impacts on wildlife are minimised	KWDWG
	Identify and encourage a focal person within each country to work closely with field workers, community structures, and formal community support agencies to represent the interests of wild dogs within discussions on infrastructure development	KLOs, IRDNC, TBNRM Forums Coordinator
	Develop a protocol for mining prospectors in protected areas to minimise negative environmental impacts and associated threats, including increased localised snare poaching	ZCP

APPENDIX 2

Workshop Participants (in alphabetical order of organisations)

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APPENDIX 3

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APPENDIX 4

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