



# Scaling up Conservation Success with SCAPES

A Program of the Wildlife Conservation Society  
Supported by the USAID/ EGAT SCAPES Program

## Beyond Fences: Policy Options for Biodiversity, Livelihoods and Transboundary Disease Management in Southern Africa

Year 2 Implementation Plan (FY 2011)  
October 2010 – September 2011

**As was the case with the first year's Implementation Plan, this Year-2 Implementation Plan (Yr-2 IP) for USAID review should be viewed as a living document as we utilize on-going USAID support to thoroughly consult regional experts in an iterative, adaptive management fashion. We wish any regional stakeholders who review this Yr-2 IP to *know that we know* it has not yet benefited from a thorough regional vetting, and is thus subject to modification.**

### A. OVERVIEW

The principal goal of the WCS SCAPES program is to conserve biodiversity and to secure the livelihoods of the rural poor through targeted site-based and policy initiatives at globally important sites for biodiversity conservation. WCS is building on USAID's Global Conservation Program (GCP) decade-long tenure which enabled partners to explore landscape-scale conservation approaches that consider complex and integrated social, economic and ecological factors.

SCAPES support enables us to adapt and extend our efforts to scale-up across boundaries where it makes most sense for wildlife, and to capitalize on our accumulated learning to focus on the interrelated needs to develop and sustain enabling conditions for adequate governance mechanisms, policies in key areas, and efficient markets to finance conservation and facilitate development.

Taking action to abate threats that risk the loss of biodiversity, depletion of ecosystem goods and services and increased impoverishment of marginalized, resource-dependent communities is central to WCS's mission of saving wildlife and wild places. With our new strategic plan, WCS is mobilizing expertise and resources to address four global conservation challenges: adaptation to climate change; sustainable extractive industries; secure human livelihoods; and healthy wildlife and ecosystems. Implementation of our SCAPES activities will help us address many of these challenges, as well as give us the opportunity to extend effective conservation to new people and places, and their related institutions and organizations, thereby increasing chances of ecological, social and financial sustainability of our conservation actions.

The USAID SCAPES elements – a threats-based approach, sustainability, adaptive management, and scaling-up – are essential, interdependent components of successful conservation efforts. Each is critical to a positive and sustainable long-term impact on biodiversity conservation at a landscape or seascape scale and to secure local livelihoods. These elements are integrated into the activities presented below.

The SCAPES program at WCS is designed to ensure biodiversity conservation in three areas of global importance. We do this by identifying actions to conserve landscape species, and by increasing the capacity of local and national organizations to implement such actions. The three areas of global biodiversity importance for WCS involvement and USAID activity are currently:

- Daurian Steppe (Mongolia, Russia and China)
- Madidi-Tambopata Landscape (Bolivia and Perú)
- Transfrontier Conservation Areas (TFCAs) in southern Africa, such as the Kavango-Zambezi TFCA (Angola, Botswana, Namibia, Zambia and Zimbabwe)

## **PROJECT GOAL AND APPROACH**

The WCS “Beyond Fences” program is focused on threats facing biodiversity conservation and development in large, transboundary landscapes. We view these challenges from the critically important perspective of the linkages among wildlife health, domestic animal health, and human health and livelihoods.

Southern Africa has a disproportionately high fraction of global biodiversity, found across a range of arid and semi-arid ecosystems. More than 40% of species are endemic. Thirteen potential and existing terrestrial Transfrontier Conservation Areas (TFCAs) have been identified in the SADC region, many encompassing national parks, game reserves, hunting areas, and conservancies embedded within a matrix of land under traditional communal tenure. The existing and proposed TFCAs cover more than 1,200,000 km<sup>2</sup> and include within their borders many of sub-Saharan Africa’s highest priority biodiversity conservation areas. Development of such TFCAs to further the conservation of biodiversity and sustainable development through the harmonization of transboundary natural resource management is a priority for SADC (the Southern African Development Community).

The target areas of the SCAPES “Beyond Fences” effort include one of southern Africa’s major transfrontier conservation areas – the Kavango-Zambezi Transfrontier Conservation Area (KAZA TFCA), at the verge of becoming perhaps the world’s largest conservation-oriented landscape. The importance of this initiative to the region was evidenced by the signing of an international MoU to establish the KAZA TFCA by Angola, Botswana, Namibia, Zambia and Zimbabwe in 2006 and agreement has been reached on creating a transfrontier area spanning approximately 400 000 km<sup>2</sup> encompassing more than 70 national parks, game and forest reserves, community conservancies, hunting blocks and game management areas. The area will include, for example, the Caprivi Strip, Chobe National Park, the Okavango Delta (the largest Ramsar site in the world) and the Victoria Falls (a World Heritage Site). The KAZA TFCA is also home to many of the world’s most charismatic mega-vertebrates including the largest contiguous population of elephants (approximately 230,000) on the continent, and comprises a large portion of the WWF Central and Eastern Miombo Woodlands Global Ecoregion.

A key economic driver behind TFCAs like KAZA is nature-based tourism that seeks to maximize returns from marginal lands in a sector where southern Africa enjoys a global comparative advantage. According to the 2004 *Millennium Ecosystem Assessment*, nature-based tourism (photographic, trophy hunting, etc.) now contributes about as much to the gross domestic product of southern Africa as agriculture, forestry, and fisheries combined – a remarkable and relatively recent development. However, the management of wildlife and livestock diseases (including zoonoses – diseases transmissible between animals and people) within the envisaged larger transboundary landscapes remains unresolved and an emerging policy issue of major concern to livestock production, associated access to export markets, and other sectors, including public health, in the region. Livestock farming is, of course, an important traditional

way for communities in sub-Saharan Africa to build and maintain wealth, and help attain food security.

The TFCA concept and current internationally accepted approaches to the management of transboundary animal diseases (TADs) are largely incompatible. The TFCA concept promotes free movement of wildlife over large geographic areas, whereas the present approach to the control of TADs (especially in respect to directly transmitted infections) is to prevent movement of susceptible animals between areas where TADs occur and areas where they do not, and to similarly restrict trade in commodities derived from animals on the same basis. **In short, the incompatibility between (a) current regulatory approaches for the control of diseases of agro-economic importance and (b) the vision of vast conservation landscapes without major fences represents one of the key threats to transboundary conservation success and the risk-diversification of land-use options and livelihood opportunities.** These represent a suite of issues that WCS has been focusing on through the Animal & Human Health for the Environment And Development (AHEAD) program, which has facilitated transparent, multidisciplinary policy dialogue and planning at various scales in southern Africa since 2003.

As per the AHEAD website ([www.wcs-ahead.org](http://www.wcs-ahead.org)): AHEAD is a convening, facilitative mechanism, working to create enabling environments that allow different and often competing sectors to literally come to the same table and find collaborative ways forward to address challenges at the interface of wildlife health, livestock health, and human health and livelihoods. We convene stakeholders, help delineate conceptual frameworks to underpin planning, management and research, and provide technical support and resources for projects stakeholders identify as priorities. AHEAD recognizes the need to look at health and disease not in isolation but within a given region's socioeconomic and environmental context.

Southern African governments that have agreed to work together to create TFCAs will only continue to invest in this complex type of effort if the economics behind TFCAs make sound development sense. Much of the "Beyond Fences" policy focus relates to that same objective, as we believe there will be no sustainable conservation success without concomitant diversification and improvements of local incomes. This will need to be catalysed by a policy milieu that facilitates enhancement and greater local capture of revenue streams generated through livestock-based and wildlife-based enterprises, where these are ecologically and socio-culturally appropriate.

Without successful transboundary conservation efforts and in the absence of a holistic approach to land-use planning, the region's core protected areas face significant ongoing threats from habitat fragmentation. One result of failure to bring relevant sectors (ministries) together to create a 'TFCA enabling environment' will be more and more "island parks" and extinguished migratory routes, putting populations of a wide range of wildlife species, and the livelihoods they support, at increasing risk. In addition to precluding encroachment and the "island park" phenomenon, key in terms of ensuring system resilience in the face of climate change, there is probably no better adaptive strategy for biodiversity conservation in this part of the world than enhancing multi-directional connectivity through the type of informed land-use planning processes that TFCA development requires.

WCS-AHEAD works with local stakeholders and interested parties to create an enabling environment to resolve the conflicts that arise between the creation of very large Transfrontier Conservation Areas (TFCAs) and current approaches to the control of animal diseases within and between countries. Present animal disease controls within TFCAs depend in large part on thousands of kilometres of game-proof fences and strict regulation of local and export markets for animal products. These disease control fences and the physical and land-use barriers they

create pose one of the greatest threats to transboundary connectivity and the vision of vast conservation landscapes that promise both conservation and livelihood benefits in largely semi-arid lands that may be considered marginal for agriculture.

A renewed focus on expanding international trade in livestock-derived products from the SADC region, potentially facilitated through new policy paradigms related to commodity-based trade and other enhanced approaches for ensuring food safety, meeting internationally accepted sanitary standards, and increasing value chains, mandates a simultaneous evaluation of the potential for these new pro-trade opportunities to simultaneously make transfrontier conservation both more feasible and more widely acceptable to the range of sectors involved.

The convergence of a renewed emphasis on food security and enhancement of livestock agriculture in southern Africa and the transfrontier conservation movement provides a once in a generation opportunity to address land-use conflicts and inefficiencies that have been a barrier to economic development in many SADC countries going back decades. Our approach is to build on our experience over the last seven years in southern African TFCA and to work to foster consensus on policy frameworks across disciplinary and sectoral jurisdictions as part of efforts to ensure a foundation of transparent governance, concurrently addressing local, national, and transboundary policies and practice. WCS-AHEAD plays the role of 'honest broker' and convener while working in close collaboration with SADC, OIE, FAO and the TFCA governing bodies.

## **THREATS AND PROGRAM RESPONSE**

A key strategy for biodiversity conservation in southern Africa is the securing of biological connectivity across larger landscapes, e.g. – through TFCA. The region's core protected areas increasingly are facing the threat of becoming isolated ecological islands in agricultural landscapes, with the loss of connectivity so important to maintaining genetic diversity and the viability of globally endangered wildlife populations (e.g.- African wild dog, black rhino). Enhanced connectivity across large landscapes will also be a crucial factor in biological adaptation to climate change in the region – and one of the greatest threats to such connectivity is the disease-control game fencing that criss-crosses much of the region. Loss of habitat corridors through land-use restrictions driven by disease control requirements is a further contributing factor to habitat fragmentation and the loss of migratory and dispersal routes.

## **SITE STRATEGY - OVERVIEW OF OBJECTIVES AND ACTIVITIES**

Through this policy intervention, WCS will contribute to the overall SCAPES goal to conserve biodiversity and secure the livelihoods of the rural poor through the following objectives:

1. To help create an enabling environment for enhanced cooperation among conservation, agriculture and human health experts and authorities (within and between participating countries), anchored through a series of (informal and formal) consultative meetings.
2. To identify mechanisms for controlling transboundary animal diseases (TADS) without complete reliance on current fencing approaches, using expert groups to analyse potential scenarios involving alternative tools and policies.
3. To inform and influence cross-sectoral and transboundary policy responses which support both TFCA and control of TADS.

Our work involves reviewing key livestock/wildlife interface issues with an emphasis on management of TADS, particularly zoonoses and those diseases that hinder livestock producers'

access to regional and international markets. This will enable exploration of new options for resolving the currently conflicting objectives of establishing TFCAs and controlling TADS. We continue to explore alternatives to reliance on extensive cordon fencing, and new approaches to controlling disease that consider a broader economic development framework.

The success of this approach depends on engagement of multiple experts, sectors and nations. Authorities from the Ministries of Environment and Agriculture are critical, as are those from Public Health. Efforts in Year-2 will also include more work with the major multilateral bodies such as the Southern African Development Community (SADC), the World Organization for Animal Health (OIE) and the Food and Agricultural Organization of the United Nations Emergency Centre for Transboundary Animal Diseases (FAO-ECTAD), all of which have endorsed the AHEAD program. Both OIE and FAO have a critical presence in the southern African region and are headquartered in Europe (the market for many of southern Africa's exported animal-derived products). In addition, we will continue to engage the various TFCA governing bodies especially those responsible for overseeing animal health issues, to ensure we offer the most targeted support in terms of the needs and goals TFCA member countries have themselves outlined. For example, we met with the KAZA TFCA Technical Committee and Conservation Working Group during Year-1, and look forward to working closely with them in Year-2 and beyond.

## **B. OBJECTIVES AND ACTIVITIES**

The overall framework for the project as summarized in the **Objectives Tree (Figure 1.** below) illustrates the long-term and short-term goals of the project, its specific objectives/outputs, and the major activities that will be required to reach those objectives. The implementation plan for the second year of this project will be primarily concerned with addressing the full range of activities identified for Objective #1 and initiating the activities identified for Objectives #2 and #3.

Recognized as critically important and successful in Year-1, the process of relationship-building remains a strong focus in Year-2. We see our role as, first and foremost, supportive to relevant official regional mechanisms already in place. Identifying key actors in this multi-national landscape, and building resilient, trusted relationships amongst all parties will continue to be an important role of the "Beyond Fences" Coordinator. Given the continued need to engage key stakeholders, our Implementation Plan in Year-2 remains an iterative process that may leave some meetings or workshops or analyses unspecified as of this writing. This iterative planning process will help us secure the input of the primary constituents across the region to inform how best to mesh our collective goals. While AHEAD has had a presence in southern Africa for more than seven years now, "Beyond Fences" is still understandably viewed as a relatively new initiative, necessitating substantial on-going investment in building productive and trusting relationships with and among key actors across the landscape in Year-2, and beyond.

**Figure 1. OBJECTIVES TREE** (exclusive of Objective #4: SCAPES Coordination & Support Services)

**YEAR-5 GOAL** New approaches for reconciling management of transboundary animal diseases with needs for TFCA connectivity identified, and recommendations for policy modifications developed in collaboration with TFCA partner countries

**YEAR-2 GOAL** Build on past successes and lessons learned to help create an enabling environment to inform and resolve conflicts between the creation of TFCAs and current approaches to the control of transboundary animal diseases

<p><b><u>Output/Objective #1:</u></b>  <b>Enabling environment for enhanced cooperation between conservation, agriculture and health experts and agencies in TFCAs is facilitated</b></p>	<p><b><u>Output/Objective #2:</u></b>  <b>Mechanisms for controlling TADs without complete reliance on cordon fencing are identified and promoted</b></p>	<p><b><u>Output/Objective #3:</u></b>  <b>Cross-sectoral policy responses that support TFCAs while controlling TADs are influenced</b></p>
<p><b>Activities:</b></p> <p>1.1 Continue “institutional mapping” study establishing the key actors and agencies involved in (a) development of the TFCA and conservation activities (b) agriculture, livestock development and disease, and (c) human health and livelihoods</p> <p>1.2 Work with key actors and stakeholders and solidify a foundation of trust among them, and with the AHEAD program through frequent meetings and information-sharing</p> <p>Continue to identify key, influential people and champions of various causes related to TFCA development and the control of TADs, and to explore links with them as potential partners</p> <p>1.3 Finalize review and analysis of the legal and policy frameworks and regulations relating to conservation and diseases and their control within the five countries / SADC as well as those relating to international control of TADs</p> <p>1.4 Convene multi-disciplinary workshops, colloquia, other meetings to explore and define ecological, social and political dynamics and specific ways to address challenges identified at the interface between conservation and TADs; explore linkages with Daurian Steppe SCAPE</p>	<p><b>Activities:</b></p> <p>2.1 Critically review (using multi-disciplinary teams as necessary) the status of TADs, current control methods, capacity to implement control, environmental impacts, costs and benefits, and sustainability of control methods</p> <p>2.2 Explore alternative options and outcomes for the control of TADs in relation to TFCAs, including those related to commodity-based trade, using scenarios with key stakeholders at regional, national and local levels</p> <p>2.3 Research and analyze key constraints to conservation and development success at the wildlife/livestock/human interface across the southern African subregion; explore linkages with Daurian Steppe SCAPE</p> <p>2.4 Examine likely effects of climate change scenarios on distributions of vectors and diseases in southern African TFCAs</p> <p>2.5 Support publication / dissemination of results of findings through informal and formal mechanisms (e.g.- newsletters, AHEAD Updates, peer reviewed journals, etc.)</p>	<p><b>Activities:</b></p> <p>3.1 Produce and disseminate policy briefs and reports based on activities carried out under Outputs/Objectives 1 &amp; 2</p> <p>3.2 Establish awareness, visibility and outreach channels (website, newsletter, etc.) for the program (initiated via Output/Objective 1)</p> <p>3.3 Attend conferences and meetings and present project ideas, results and approaches to selected audiences</p> <p>3.4 Liaise with appropriate national, regional and international agencies to foster implementation of identified win-win conservation and disease management policy options and opportunities</p>

**OBJECTIVE 1: To help facilitate an enabling environment for enhanced cooperation among conservation, agriculture as well as human health experts and authorities (within and between TFCA member countries), anchored through a series of (informal and formal) consultative fora.**

WCS has demonstrated the value of health as an entry point for facilitating more transparent and robust cross-sectoral governance and land-use planning. We continue to build on that experience to support and enhance communication and cooperation among the conservation, veterinary, agriculture and human health authorities within and between countries, as well as between governmental and non-governmental entities within the region, including universities. Larger meetings with sectoral (wildlife conservation, agriculture, public health) leaders from TFCA member countries, and smaller consultative fora with individual agencies and governments, will be vehicles for facilitating this dialogue. In Year-2, the “Beyond Fences” Coordinator will continue to spend a portion of his time meeting informally and formally with key decision-makers and other stakeholders across the region.

**Activity 1.1: Continue “institutional mapping” study to establish the key actors and agencies in southern Africa involved in (a) development of TFCAs and conservation activities (b) agriculture, livestock development and disease, and (c) human health and livelihoods.**

In addition to government agencies, there are several donor agencies and international and local NGOs involved in conservation, rural development, and both human and animal health programs active in southern Africa. A broad but in-depth analysis of the actors and agents involved at the interface between conservation and animal and human health in the region is referred to here as “institutional mapping” and is an important on-going process that contributes to understanding institutional dynamics in the region and facilitating an enabling environment for enhanced cooperation among stakeholders.

**RESULTS/OUTPUTS:**

- A detailed report of organisations and principal stakeholders and actors involved in the development of the southern African TFCAs such as KAZA and their levels of involvement in (a) development of TFCAs and conservation activities, (b) agriculture, livestock and disease, and (c) human health and livelihoods and their links to the issues at the interface between conservation and the control of transboundary animal diseases. As with most AHEAD products, this compilation will be made available online and updated as needed. In addition, hard copies and/or digital files will be made available to members of relevant TFCA Committees and Working Groups and to other officials and institutions identified as having a key role in the objectives of the “Beyond Fences” program and TFCA initiatives.

**Activity 1.2: Networking and Relationship Building. This Activity will also allow us to work with key actors and stakeholders and solidify a foundation of trust among them, and with the AHEAD program, through frequent meetings and information sharing. This Activity facilitates our on-going efforts to identify key, influential people and champions of various causes related to TFCA development and the control of TADs, and to explore links with them as potential partners.**

In addition to our on-going engagement with the KAZA TFCA Technical Committee (TC), we also intend to establish closer ties with regional entities (such as SADC, OIE, FAO and other multinational bodies) that are familiar with and/or focused specifically on animal health issues, and who recognize the importance of identifying new approaches to managing TADs in the

context of TFCAs. We continue to offer technical support and policy-related products to the KAZA TC and Secretariat.

AHEAD and the Southern Africa Regional Environmental Program (SAREP) share many goals, yet bring different skill sets and approaches to the table. The “Beyond Fences” coordinator initiated discussions with SAREP’s newly appointed Chief of Party (Steven Johnson) during Year-1 and discussions regarding potential partnerships are underway. WCS also remains open to exploring potential synergies with the USAID-funded Kazungula Heartland SCAPE program as managed by AWF.

RESULTS/OUTPUTS:

- Key influential people and potential “champions” identified.
- Potential partners in further development of the program identified; strategic partnerships expanded.
- Trip reports on visits to southern African TFCA member countries, including contact details, and relevant information relating to organizations contacted, and people met on these visits.
- Development of regional e-newsletter. (The current overarching AHEAD Update, which has included “Beyond Fences”-related developments, goes out 3-4 times per year to almost 1,500 subscribers, the majority being in Africa.) TFCA-specific communications will begin in Year-2.

**Activity 1.3: Assemble the legal and policy frameworks and regulations relating to conservation and diseases and their control within the five countries / SADC as well as those relating to international controls of TADs.**

In Year-2 we will conclude the process of assembling legal and policy frameworks and regulations relating to conservation and diseases and their control within the five KAZA TFCA member countries / SADC (as well as those relating to international controls of TADs).

RESULTS/OUTPUTS:

- Final report describing the legal and policy frameworks and regulations relating to diseases and their control in the context of conservation within the five KAZA Member States (Angola, Botswana, Namibia, Zambia, Zimbabwe), with an emphasis on standards relating to international control of TADs and trade in meat and meat products adopted by the OIE, EU and US- and regional organizations such SADC. (The resulting final report, including analysis and recommendations, will be posted online. In addition, hard copies and/or digital files will be made available to members of relevant TFCA Committees and Working Groups and to other officials and institutions identified as having a key role in the objectives of the “Beyond Fences” program and TFCA initiatives.)
- Expanded legal and policy document collection contained within the Zotero library/bibliography\*
- Meeting minutes and reports

\* During Year-1 we selected the free open-source online digital library Zotero ([www.zotero.org](http://www.zotero.org)) to house and share key scientific and policy documents and other research resources. A library containing relevant materials on policy and legislation related to animal health, disease and conservation in the region, with subsections dedicated to fencing and climate change, now contains more than 400 relevant scientific reports, occasional papers and reviews. This



library/bibliography may be accessed online at <https://www.zotero.org/groups/21816/items>. For an e-invitation to the AHEAD Zotero database (required because of copyright issues), please contact London Davies <ldavies@wcs.org>, Shirley Atkinson <satkinson@wcs.org>, Mark Atkinson <matkinson@wcs.org>, or Steve Osofsky <sosofsky@wcs.org>. The AHEAD website is also available, and a “Beyond Fences” (AHEAD KAZA) section was established in Year-1.

**Activity 1.4: Convene and attend multi-disciplinary workshops, colloquia, and meetings to explore and define ecological, social, and political dynamics, and specific ways to address the challenges identified at the interface between conservation and TADs.**

In 2008, the SADC Foot and Mouth Disease (FMD) Project in conjunction with regional partners, including AHEAD, and with funding support from USAID, convened a meeting in Kasane, Botswana entitled “Achieving Compatibility Between the Transfrontier Conservation Area Concept and International Standards for the Management of Transboundary Animal Diseases” ([http://www.wcs-ahead.org/sadc\\_forum.html](http://www.wcs-ahead.org/sadc_forum.html)). The meeting began the process of examining areas of conflict between biodiversity conservation and trade in products derived from livestock, and explored potential solutions such as commodity-based trade (CBT). For an explanation of the CBT concept, see **Box 1**, below. The meeting participants identified several priority issues and actions, highlighted the importance of the AHEAD process, and developed a set of 100-day deliverables. These were not followed-up on, however, as the SADC FMD project was unexpectedly terminated shortly after the meeting concluded, and momentum was lost. AHEAD played an integral role in the development of the defined priorities which included: capacity building, garnering regional and international support for examining approaches like CBT, information-sharing and cross-sectoral dialog as promoted by the AHEAD process, planning for investment in TFCAs, developing and refining disease control strategies for wildlife and livestock, and enhancing disease prevention and control through appropriate and effective vaccination strategies. Many of these issues are important to the “Beyond Fences” initiative. We propose, therefore, to convene a meeting in Year-2 that revisits these priority issues, brings together current subject matter experts from the region and re-establishes the momentum behind the concept of CBT as one potential solution to the current incompatibility that exists between current regulatory approaches to the control of TADs and the vision of vast transboundary conservation landscapes in southern Africa. SADC, the OIE, other regional entities, veterinarians and several development partners including SAREP have recently expressed support for this idea. Further, results of such a meeting will directly contribute to achieving Output/Objective 2, i.e. to identify mechanisms for controlling TADs without reliance on current fencing approaches. The lack of meaningful follow-through on the Kasane 2008 meeting following termination of the SADC FMD Project clearly highlights the importance of long-term investment and continuity. With USAID support of the “Beyond Fences” project through 2014, we believe we are ideally positioned to build substantively on the foundation established by the 2008 Kasane meeting and to maintain the momentum required to maximize opportunities for successful delivery on a set of important objectives.

Other “Beyond Fences” meeting / workshop themes will, in large part, be driven by the needs of official TFCA Working Groups and subgroups. As outlined in previous activities, the “Beyond Fences” Coordinator will seek guidance / input from regional stakeholders in prioritizing the themes for future colloquia and other meetings. As specific working meetings are planned, they will be noted in reports to USAID.

During Year-1, the Zimbabwean delegation to the KAZA TFCA Technical Committee raised concerns that as an equal partner in the TFCA, current US Treasury – Office of Foreign Assets Control (OFAC) regulations may impact their opportunity to benefit from WCS (USAID) support. Through the KAZA TC, Zimbabwe requested clarification as to how this USAID-funded WCS-

SCAPES initiative intends to address these concerns. We have thus sought clarification from our SCAPES AOTR, and USAID has indicated that provision of support to Zimbabwe government officials who do not appear on the Specially Designated Nationals (SDN) list is permitted for FY-11, but only through the use of non-USG funds. WCS attorneys are conferring on this guidance due to the extreme importance of adhering to OFAC guidelines. Once WCS' Legal Dept. provides concurrence, WCS will be able to identify non-USG matching funds to support travel of non-SDN Zimbabwe Government officials to the types of meetings described herein as needed.

An invited paper entitled "Beyond Fences: Policy Options for Biodiversity, Livelihoods and Transboundary Disease Management in Southern Africa" has been accepted for presentation during the 'One Health in a Shrinking World' session of the 2010 Trilateral Meeting of the Canadian, Mexican and United States Wildlife Veterinary and Conservation Medicine Nonprofit Organizations. A similar paper, with a focus on KAZA, will be presented to the Veterinary Association of Namibia (VAN) at their annual Scientific Congress, due to be held in Swakopmund, Namibia in October 2010. The "Beyond Fences" Coordinator will attend both meetings and make the presentations.

WCS-AHEAD has also received an invitation to present a paper at the First International One Health Congress (Human Health, Animal Health, the Environment and Global Survival) to be held in Melbourne, Australia in February 2011. WCS Director, Wildlife Health Policy and WCS AHEAD Coordinator Dr. Steve Osofsky has been invited to make a presentation on our policy work. In addition, Dr. Osofsky has been invited to participate on a special panel of experts during the "Out of the Box" session debates focused on cross-sectoral issues. WCS has identified matching funds for our attendance at the U.S. and Australia conferences.

As evidence of our strengthening relationship with the regional multilateral bodies, in Year-2, following an invitation from the SADC Secretariat, WCS-AHEAD will attend a meeting of the SADC FANR Livestock Technical Committee to make a presentation on the issue of TADs management and control (especially as related to FMD) in the SADC region with an emphasis on TFCAs such as KAZA. Additionally, WCS-AHEAD will present a paper at the OIE World Organization for Animal Health's Global Conference on Wildlife at OIE's headquarters in Paris, France. The AHEAD "Beyond Fences" Coordinator has been invited to serve on the meeting's Scientific Committee and will attend the meeting in February 2011 to present a paper, based on experience gained during Year-1 of this SCAPES program, discussing policy options for biodiversity, livelihoods and transboundary disease management in southern Africa. All costs associated with this meeting are to be covered by the OIE.

We also plan to begin exploring commonalities with approaches to related issues in the Daurian Steppe SCAPE early in Year-2. It is hoped that the 2010 SCAPES annual meeting and the 2011 AHEAD-GLTFCA meeting will provide opportunities to build this relationship between our programs. In addition, the recent foot and mouth disease (FMD) outbreak in Mongolia may provide additional opportunities for collaboration, and discussions are underway to explore the potential for FMD experts from southern Africa to visit the DS region to provide guidance for future research, surveillance and disease control strategy development. Drs Osofsky (Beyond Fences) and Fine (Daurian Steppe) are working on preliminary terms of reference for such an exchange.

#### RESULTS/OUTPUTS:

- Reports on the proceedings of workshops, colloquia and meetings convened and/or attended

- Keys issues and gaps relating to the interface between conservation and the management of TADs identified
- Support provided to southern African TFCA Conservation Working Groups and Animal Health Subgroups as requested
- Exchange of experiences on wildlife / livestock health issues with Daurian Steppe SCAPE initiated

#### **BOX 1: COMMODITY-BASED TRADE**

*Dr Gavin Thomson*

A conflict exists between the interests of biodiversity conservation and associated eco-tourism and current approaches to managing animal diseases. There are two related issues that are particularly contentious in this context: (1) the conflict between the principles of biodiversity conservation and those on which management of high-impact animal diseases is based; best exemplified by (2) differing attitudes towards fencing designed to manage the movement of wildlife populations. The Peace Parks Foundation (PPF – a NGO furthering the cause of TFCAs in sub-Saharan Africa), for example, has a vision of ‘Africa without fences’. Conversely, official veterinary authorities of most countries in southern Africa consider game fences a pillar of animal disease management and the creation of FMD-free zones. Thus one group promotes the ‘connectedness’ of animal populations (including wildlife migration patterns within and between ecosystems, even across country boundaries) while the other bases management of animal disease on strict separation of animal populations/sub-populations of differing status with respect to high impact Transboundary Animal Diseases (TADs).

With respect to high impact TADs the present international approach is to eliminate them from countries or, at least, zones (i.e. parts of countries) based on a strict geographic approach. This, furthermore, is the philosophy behind current international sanitary trade measures applied to animal commodities and products, i.e. the requirement that access to regulated markets is dependent upon the locality of production being recognised as free of high-impact TADs. However, where non-domestic animals (including arthropods) are instrumental in maintaining these infectious agents, elimination/eradication is often impossible, i.e. the technology simply does not exist. This is the apparently intractable problem which faces southern Africa when it comes to diseases such as SAT serotypes of FMD, Rift Valley fever (a zoonosis), lumpy skin disease, African horse sickness, African swine fever and many others; the best that can be hoped for is their effective management. The consequence is that animal commodities and products derived from most localities in southern Africa are precluded access to international markets and this has major impact on future rural development potential. It has resulted in attempts to exclude free-living hosts of infectious agents from countries and zones to enable export of livestock and their products. The classic example in southern Africa has been the effort to free large areas of southern Africa from FMD through elimination of buffalo from livestock producing areas and erection of thousands of kilometres of game fences that bisect ecosystems, block traditional wildlife migration routes and access to water. Devastating effects on wildlife populations resulted but still enormous areas of southern Africa remain that are not free from FMD because free-living African buffalo occur there. With the growing realisation of the importance of healthy environments and the value of wildlife and wilderness areas, the wisdom of such historical actions becomes increasingly questionable.

The World Trade Organisation’s (WTO) current approach is to foster international free trade for global well-being through lowering of both tariff and non-tariff trade barriers. Good progress has been and continues to be made with lowering tariff barriers but non-tariff barriers are proving more intractable. This issue for products derived from animals is essentially covered by two agreements among countries that are members of the WTO, viz. (1) the Agreement on the Application of Sanitary- and Phytosanitary Measures (SPS Agreement) and (2) the Agreement on Technical Barriers to Trade (TBT Agreement). These agreements are designed to reduce to acceptable levels the risk of trade resulting in adverse effects on human populations and the environment, including the health of animals. The standards employed to ensure appropriate risk management for products of all kinds, other than those derived from animals, are universally dependent upon and defined by the commodity/product in question. For animal commodities

and products on the other hand, the present international approach is based on complying with standards for proving geographic freedom from TADs. However, it has been shown and is now increasingly accepted that risk management (and accompanying standards) in relation to animal health can, alternatively, be based on the inherent risks posed by specific products (i.e. the same approach used for all other traded commodities and products). Management of these risks is therefore not necessarily dependent on the disease status of the locality of production. This being so, the current geographic approach is unnecessary for many animal products because other standards can be applied to manage the risks equally effectively. 'Equivalence', which this comes down to, is already enshrined in Article 4 of the SPS Agreement (i.e. is WTO policy). The example of de-boned beef in relation to FMD has been used to demonstrate this point and has been substantiated by an independent assessment (Thomson *et al.*, 2009; OIE, 2009).

Adoption of a product-specific commodity approach would not only bring about the required compatibility between international food safety and animal disease standards (at present similar risks are approached in very different ways by the two sets of SPS standards) but also exploit their synergies and enable safe production systems to be developed. Crucially, it would also reduce the requirement for extensive fencing systems to ensure geographic freedom from TADs for access to regulated markets for animal products. This would apply equally to products derived from livestock and wildlife and thus also foster sustainable wildlife utilization. That is not to suggest that all fencing is unnecessary because, for example, fences are sometimes required to protect people, their crops and animals from dangerous wild animals. Thus a solution to the historical southern African impasse is available and potentially provides a win-win option.

**OBJECTIVE 2: To identify mechanisms for controlling transboundary animal diseases (TADs) without reliance on current fencing approaches, using expert groups to analyze potential scenarios involving alternative tools and policies.**

Activities to achieve this objective will build on work carried out in Year-1 during which time we began gathering information related to potential alternative approaches for managing TADs that could potentially meet international trade requirements, such as commodity-based trade. Information gathering relative to the specific Activities described below will begin in earnest in the second part of Year-2. The results of an anticipated regional meeting described under Activity 1.4 focused on examining and promoting mechanisms required for achieving compatibility between the TFCA concept and international standards for the management of TADs is expected to contribute significantly to this Objective.

**Activity 2.1: Critically review (using multi-disciplinary teams as necessary) the status of TADs, current control methods, capacity to implement control, environmental impacts, costs and benefits and sustainability of control methods.**

A review of the current and historical incidence and distribution of Transboundary Animal Diseases will begin in Year-2 and will likely extend into Year-3. Where feasible, data gathered from on-the-ground TAD surveillance programs will be utilized to inform this review and develop regional disease distribution maps. The impacts of TADs on wildlife health, livestock health, production and trade, human health and livelihoods and regional development will be assessed for each of the member countries participating in TFCA initiatives. The review will examine current methods of disease management and control, perceived and actual efficacy of these methods as well as their environmental impacts and likely sustainability in the southern African context. Disease control methods utilized in each of the member countries will be compared to reveal similarities and differences and the resulting information will be used to inform an on-going assessment of the potential for disease control policy harmonization across the region. Recommended TAD control methodologies promoted by the World Organization for Animal Health (OIE) will be examined and an assessment of compliance, applicability and

relevance to southern Africa will be made. As additional gaps in information required by the program become evident, we will identify suitably qualified and experienced experts to assist with some of the necessary work to fill these gaps. The AHEAD “Beyond Fences” Coordinator is responsible for designing and developing terms of reference for such consultancies and overseeing compliance with the consultancy contracts that may be awarded.

#### RESULTS/OUTPUTS:

- TAD Status, Management and Control reports for individual member countries initiated. Due to the scope of this undertaking it is likely this assessment will carry forward into Year-3.
- Review of international standards for disease control applicable to southern African countries conducted
- Key similarities and differences in approaches to TAD management and control between TFCA member countries identified
- Consultancy studies and analyses on key issues identified and established
- Relevant scientific papers, published reports and policy documents added to the Zotero online document library
- Interim and final reports compiled, provided to TFCA Working Groups and subgroups as appropriate and posted online (final report likely to be finished in year-3)

#### **Activity 2.2 Explore alternative options and outcomes for the control of TADs in relation to TFCAs, including those related to commodity-based trade, using scenarios with key stakeholders at regional, national and local levels.**

Closely linked to Activity 2.1 and likely conducted concurrently during Year-2 and Year-3, this Activity will allow us to further explore suitable alternative options and outcomes for the control of TADs in the southern African TFCAs. A review of alternative options, including commodity-based trade (CBT), will be undertaken and a concise, descriptive report produced. A regional meeting, as described under Activity 1.4, will serve to further examine and highlight potential alternative options such as risk-based surveillance and CBT, inform key stakeholders at regional, national and local levels, and will provide an opportunity to build on existing regional support of the AHEAD process and the “Beyond Fences” program in southern African TFCAs. Reports and meeting proceedings will be distributed to key stakeholders and TFCA Conservation and Animal Health Working Groups and Subgroups, and will be posted online. Relevant documents will be added to the Zotero online document library. Appropriate subject-matter experts may be consulted during this review process.

#### RESULTS/OUTPUTS:

- Review of methods of TAD control used in southern African TFCA member countries and alternative options to such methods (including those related to commodity-based trade) completed
- Potential partnerships and places for exploring alternative options and outcomes identified. Collaborative opportunities for implementation of such alternatives in Years 2 - 5 identified (provided that additional funding for implementation of potential alternatives can be sourced).
- Consultancy studies and analyses on key issues identified and established
- Meeting proceedings compiled and disseminated
- Other relevant reports compiled, provided to TFCA Working Groups and Subgroups as appropriate and posted online

- Relevant proceedings, scientific papers, published reports and policy documents added to the Zotero online document library

### **Activity 2.3 Research and analyze key constraints to conservation and development success at the wildlife/livestock/human interface across southern Africa**

Analysis of the key constraints to conservation and development success at the wildlife/livestock/human interface across southern Africa will build on the studies described under Activities 2.1 and 2.2 conducted during Year-2 and Year-3 of the program as well as assessments made by the “Beyond Fences” Coordinator during his time spent in the region discussing critical issues with stakeholders. A well-informed, critical analysis of such constraints will therefore only be undertaken when sufficient research has been performed and suitable information has been gathered. Evaluation of these issues of course began in Year-1 and will continue throughout the life of the project. Products of these evaluations will be reported when appropriate (in semi-annual reports for example), however a final report and recommendations will not be undertaken until the latter part of Year-3 and will therefore be elaborated on in the Year-3 Implementation Plan. It is anticipated that during Year-2, the “Beyond Fences” Coordinator will undertake research that will inform this Objective as the project continues.

#### **RESULTS/OUTPUTS:**

- Literature review of available documents focusing on constraints to conservation and development success at the wildlife/livestock/human interface in southern Africa completed
- Potential/future consultancy studies and analyses on key issues identified and planned for
- Relevant reports compiled, provided to TFCA Working Groups and Subgroups as appropriate and posted online
- Relevant proceedings, scientific papers, published reports and policy documents added to the Zotero online document library

### **Activity 2.4 Examine likely effects of climate change scenarios on distributions of vectors and disease in southern African TFCAs such as KAZA**

During Year-1 of the project, we undertook a preliminary review and analysis of available literature to assess the issue of climate change and its potential impact on the southern African TFCAs. Notably absent among published studies are works focusing on disease under changed climatic regimes within the KAZA-TFCA region. The studies currently available focus at broader scales, so are of limited application within KAZA and other regional TFCAs except in a general sense. Given the susceptibility of human, livestock and wildlife populations to climatically influenced pathogens, and the transmissibility of pathogens among these populations, studies on disease under changing climatic regimes involving TFCAs should be among high priorities for future research.

Disease ecologists and epidemiologists are adopting new remote sensing techniques to study a variety of vector-borne diseases. Associations between satellite-derived environmental variables such as temperature, humidity, and land cover type and vector density are currently being used to identify and characterize vector habitats. The use of remote sensing techniques to map vector-borne diseases has evolved significantly over the past 25-years but is not being widely applied in southern Africa. During Year-2 and beyond, the “Beyond Fences” Coordinator will attempt to identify research scientists, universities and related institutions that may have an interest in, or

are currently focused on research relevant to southern Africa. Appropriate subject-matter experts may be consulted during this process.

#### RESULTS/OUTPUTS:

- Research organizations, universities, scientists and health professionals (animal and human) focused on the likely effects of climate change scenarios on the distribution of vectors and diseases in southern Africa identified
- Literature review and analysis performed in Year-1 updated and added to as new research is conducted and more information becomes available
- Conference proceedings, scientific papers, published reports and other relevant documents added to the Zotero online document library

#### **Activity 2.5 Support publication/dissemination of results of findings through informal and formal mechanisms**

Meeting reports, conference proceedings, literature reviews, and other relevant findings that result from studies undertaken in Objectives 1 and 3 will be publicised and disseminated through various formal and informal mechanisms including newsletters, AHEAD Updates and peer-reviewed journals.

#### **OBJECTIVE 3: To inform and influence cross-sectoral policy responses which support both TFCAs and control of TADs.**

The incompatibility between (a) *current regulatory approaches for the control of diseases of agro-economic importance* and (b) *the vision of vast conservation landscapes without major fences* represents one of the key threats to transboundary conservation success and thus risk-diversification of land-use options and livelihood opportunities. WCS and partners will continue to focus on these issues throughout the project. Activities to achieve this objective will build on work carried out in the first and second years of the project. Thus, work on this objective will likely need to begin in earnest in the first half of the third year, and will be elaborated upon in the work plan for Year-3. (See **Figure 1** above for list of activities.)

#### **OBJECTIVE 4 (not captured in Figure 1's Objectives Tree): Assure technical and coordination support services for the program.**

The New York-based Coordination Unit will serve as a hub for communication regarding the Program among WCS field staff, core sites, current and potential conservation partners and interested members of the general public. The Conservation Support (CS) program director and CS program staff will continue to communicate with the "Beyond Fences" team and WCS Global Health and Africa Programs to discuss the development and sustainability of the program, and further development of tools relevant to the approach.

#### **Activity 4.1 Ensure coordination and communication services for the program**

The program director and/or program manager and other WCS staff members (as necessary) will attend quarterly USAID/EGAT meetings in Washington, DC and will ensure regular reporting and updates to USAID. They will also serve as a support service to the field regarding the proper administration of the SCAPES cooperative agreement. The program director will keep abreast of

the progress of field activities across all WCS-SCAPES programs; scheduling site visits as necessary, especially in conjunction with the need for technical support (see activities below).

RESULTS/OUTPUTS:

- The NY Coordination Unit will assist field staff in completing annual Implementation Plans, reporting on Performance Monitoring forms, and submitting Financial and Technical Reports.

**Activity 4.2 Provide on-going tool development and technical guidance to the program**

Leveraging CS-NY staff members' areas of technical expertise and experiences in conservation planning, GIS, and performance monitoring, CS-NY will provide technical advice on wildlife-focused, landscape-scale conservation planning, process, impact and strategy effectiveness monitoring, and reporting to field-based staff as needed. CS-NY staff will also assist in capturing and sharing lessons learned on conservation planning and progress, monitoring tools (including the potential use of Miradi), and effective strategies for landscapes scale conservation. As the "Beyond Fences" initiative in southern Africa continues to develop, CS-NY will provide strategic planning guidance, as needed, most specifically in continued support of conceptual model development. A draft conceptual model developed in Year-1 will be explored in more detail in Year-2.

RESULTS/OUTPUTS:

- Strategic planning, process, impact and strategy effectiveness monitoring, and reporting assistance provided by CS-NY staff as needed. Lessons learned captured and made available within WCS, to our SCAPES partners and to the broader conservation and development communities. Miradi development guided by SCAPES experience.